



Service Manual

STEREO DOUBLE CASSETTE DECK AMPLIFIER

DC-Z93 YPW, SD

- Refer to the service manual ARP1907, DC-Z93/HB type.
- This manual is applicable to the DC-Z93/YPW and SD types.

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts without part number cannot be supplied.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “◎” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The DC-Z93/YPW and SD types are the same as the DC-Z93/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		HB type	YPW type	SD type	
	POWER SUPPLY assembly CONNECT assembly	AWZ2241 Non supply	AWZ2244 Non supply	AWZ2242	*1
	S2001 Line voltage selector switch (110V,120-127V,220V,240V)	.....	.....	AKX1007	
	S2002 Line voltage selector switch (110V,120-127V,220V,240V)	.....	.....	AKX-507	
	C2001 Capacitor(0.01μ/400V) Capacitor cover	.....	.....	ACG1003 Non supply	(For C2001)
	T2001 Power transformer	ATS1254	ATS1254	ATS1263	
	FU2001 Fuse (T2A/250V)	AEK-511	AEK-017	.....
	FU2001 Fuse (T4A/250V)	.....	.....	AEK-400	
	FU2002 Fuse (T1.6A/250V)	.....	.....	AEK-405	
	FU2003 Fuse (T1.6A/250V)	AEK-510	AEK-405	AEK-405	
	FU2004,FU2005 Fuse(T1.25A/250V)	AEK-509	AEK-018	AEK-018	
	AC Power cord	ADG1052	ADG-064	ADG1015	
	AC socket (OUTLET 1P)	.....	AKP-517	.....
	Strain relief	AEC-882	.....	.....
	Operating instructions (Spanish)	.....	.....	ARC1192	

*1 YPWtype and HBtype of the CONNECT assembly are identical assemblies.

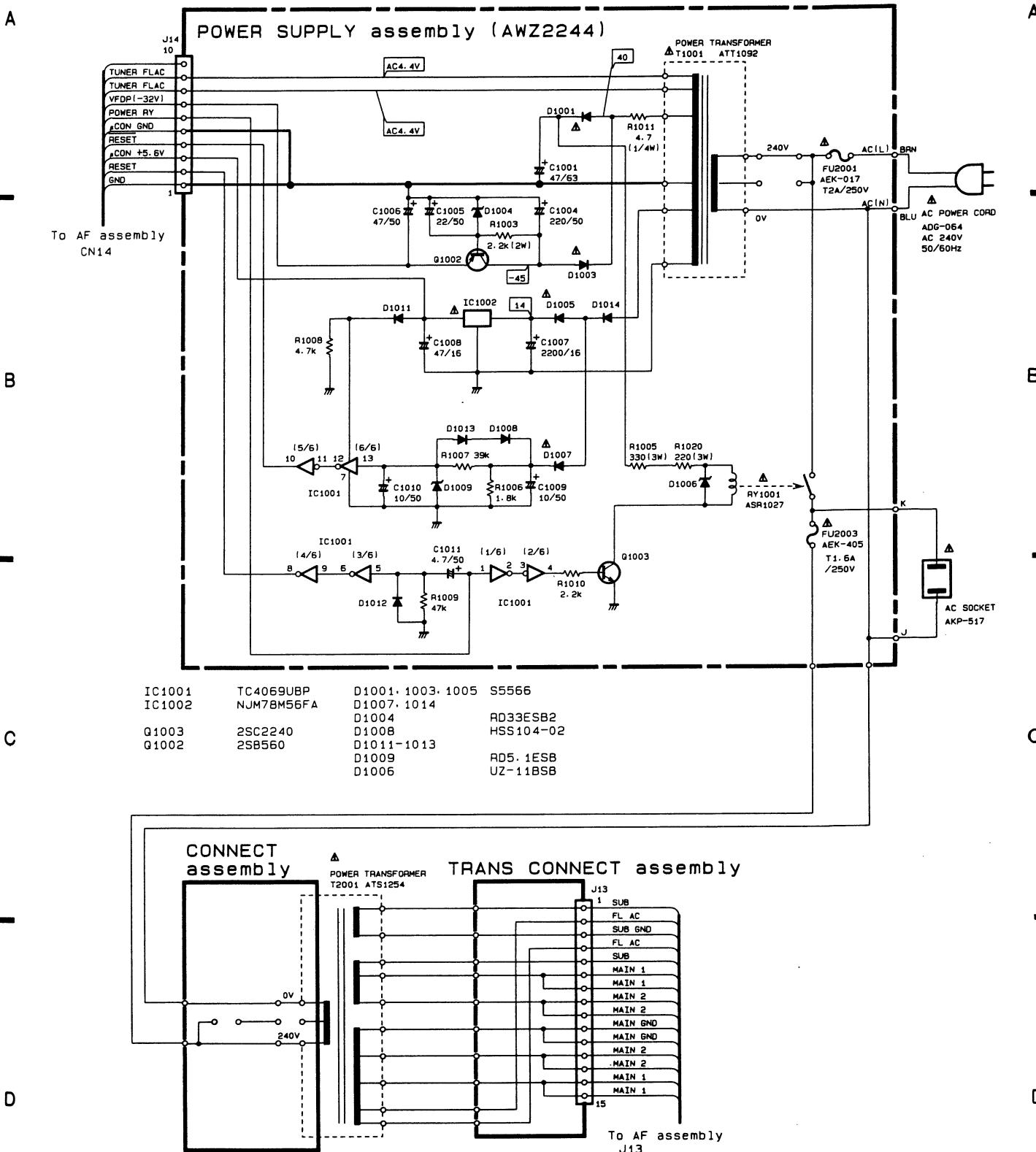
POWER SUPPLY assembly (AWZ2244 and AWZ2242)

The POWER SUPPLY assemblies (AWZ2244 and AWZ2242) are the same as the POWER SUPPLY assembly (AWZ2241) with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		AWZ2241	AWZ2244	AWZ2242	
	T1001 Power transformer (AC220V,240V)	ATT1092	ATT1092	.....
	T1001 Power transformer (AC110V,120-127V,220V,240V)	.....	.....	ATT1093	
	AC socket (OUTLET 1P)	AKP1035	.....	AKP1033	

2. FOR YPW TYPE

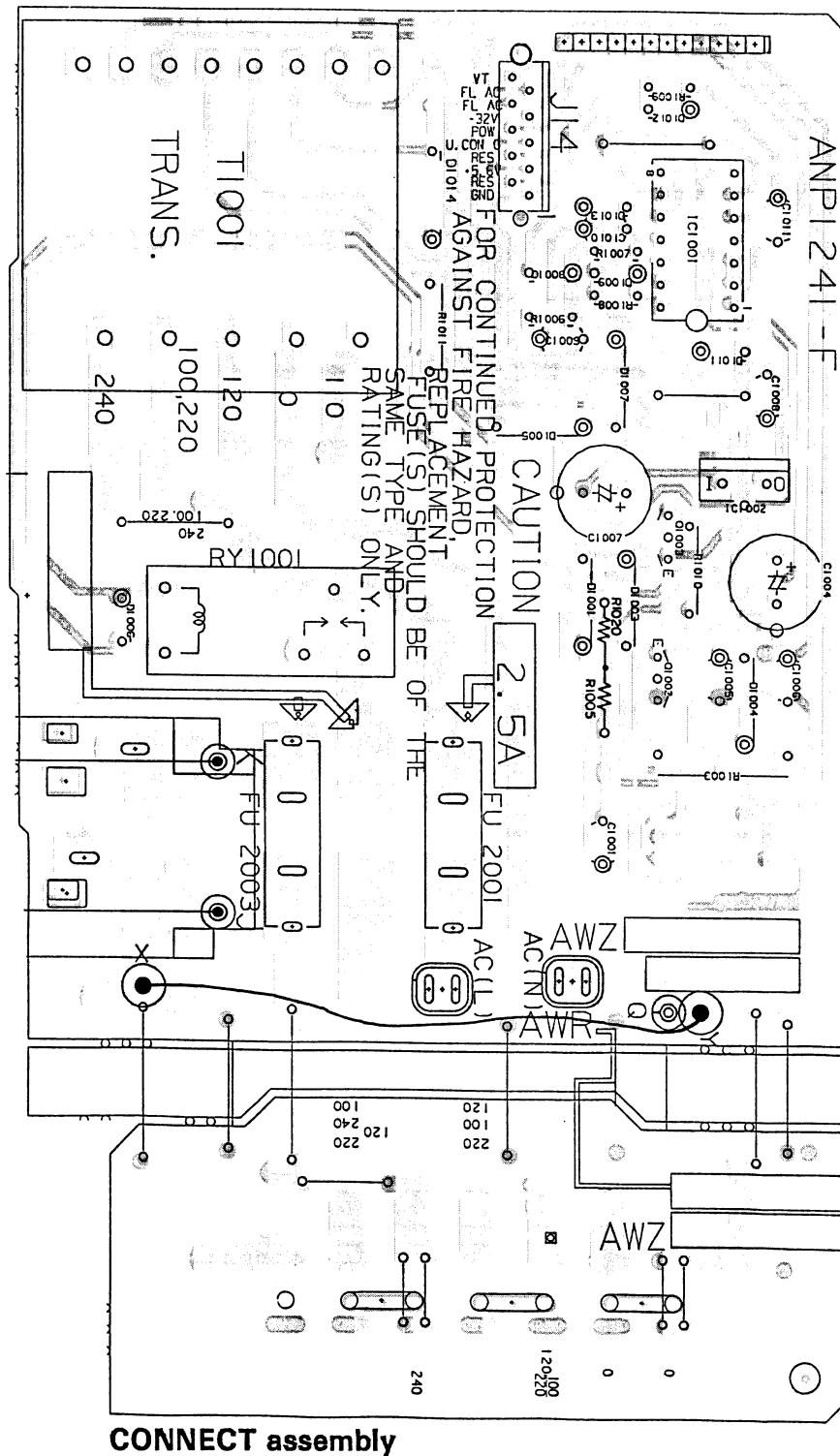
2.1 SCHEMATIC DIAGRAM



2.2 P.C.BOARD DIAGRAM

A

POWER SUPPLY assembly (AWZ2244)



CONNECT assembly

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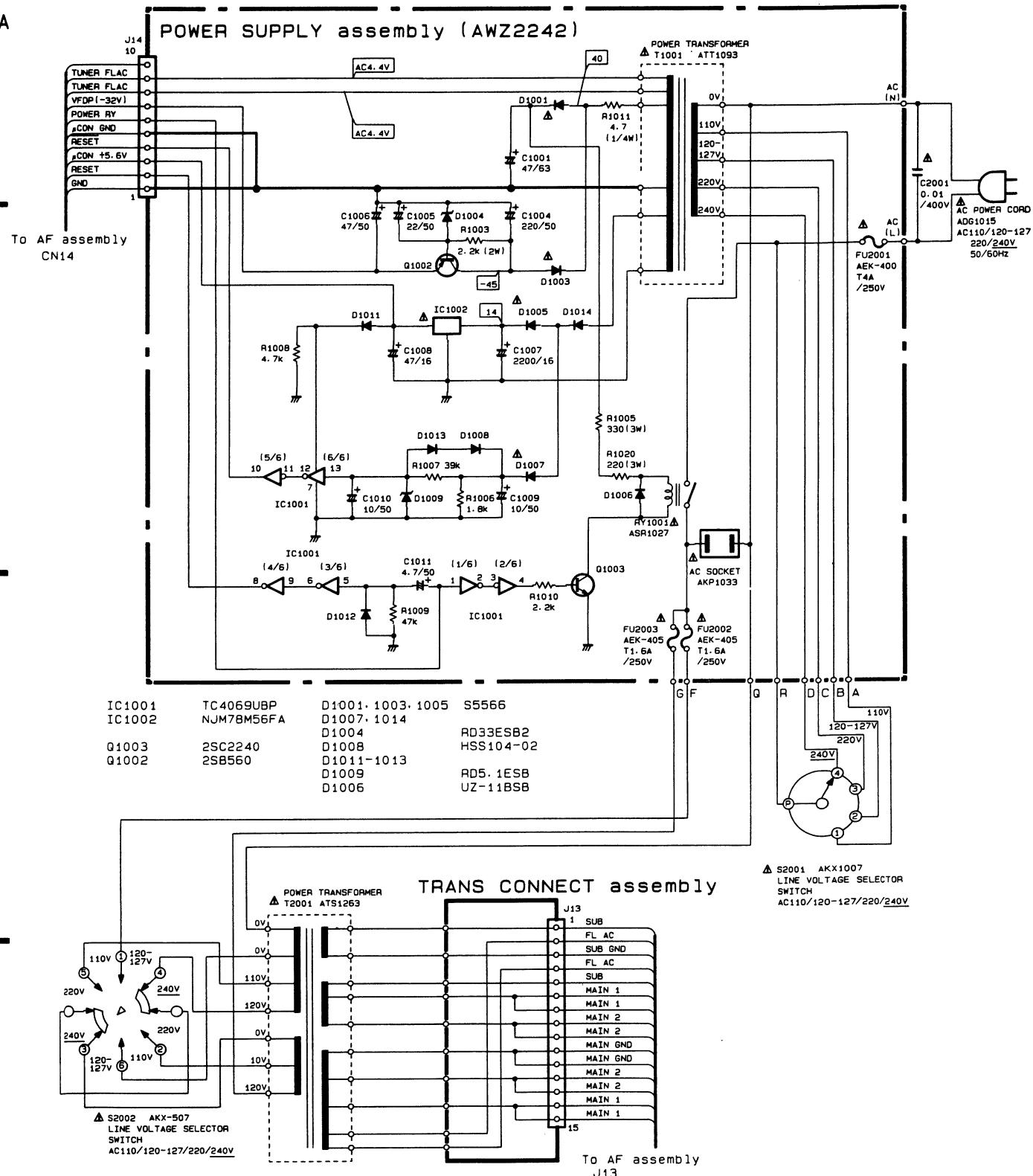
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3. FOR SD TYPE

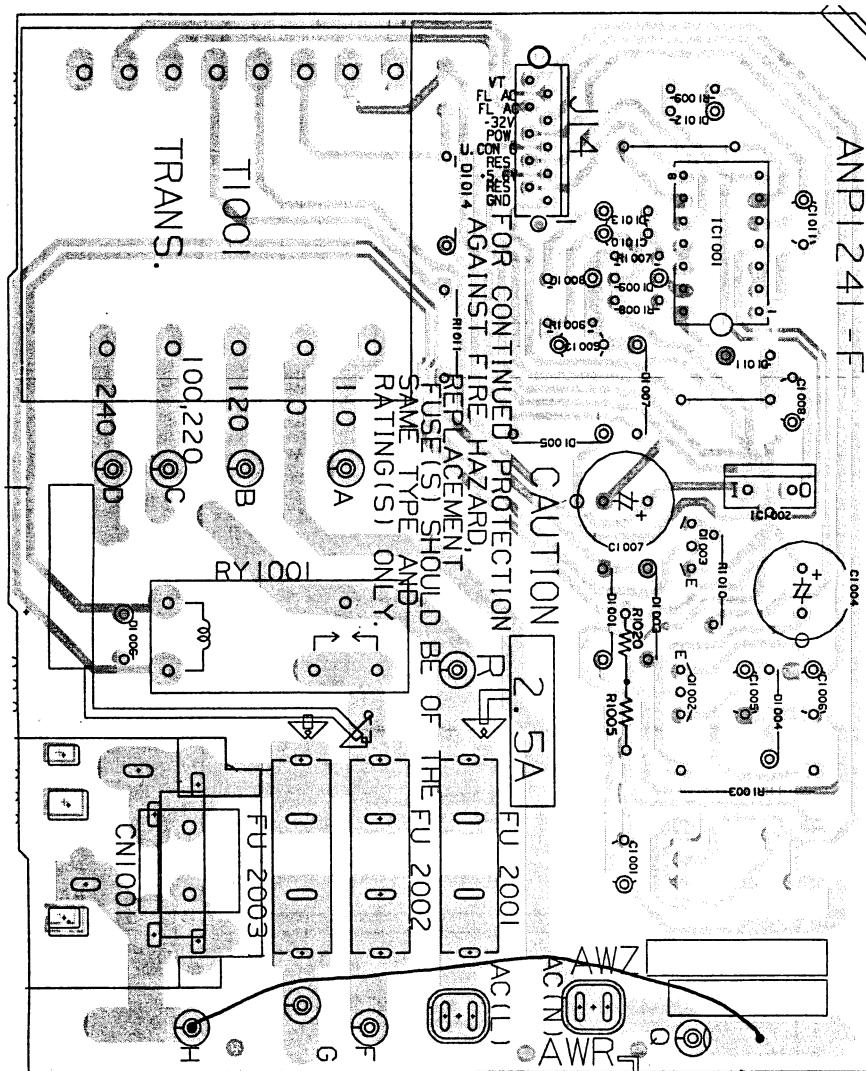
3.1 SCHEMATIC DIAGRAM



3.2 P.C. BOARD DIAGRAM

A

POWER SUPPLY assembly (AWZ2242)

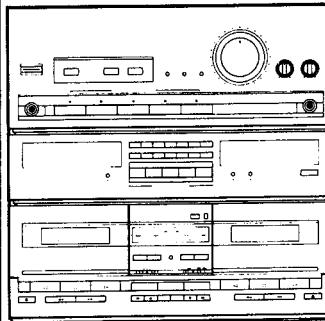


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Service Manual



ORDER NO.
ARP1907

STEREO DOUBLE CASSETTE DECK AMPLIFIER **DC-Z93**

DC-Z93 HAS FOLLOWING VERSIONS:

Type	Power requirement	Export destination
HB	AC220V, 240V (switchable) *	United Kingdom
HE	AC220V, 240V (switchable) *	European continent
HEWZ	AC220V, 240V (switchable) *	West Germany
KUC	AC120V only	U.S.A. and Canada
YP	AC240V only	Australia
SD	AC110V, 120V-127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and General market

*: Change the Jumper wires of assembly boards.

- This manual is applicable to the HB and HE type.
- As to the system composition, refer to the S-333 service manual (ARP1935).
- As to the HE type, refer to page 74.
- As to the other types, refer to applicable service manuals.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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YV JAN. 1990 Printed in Japan.

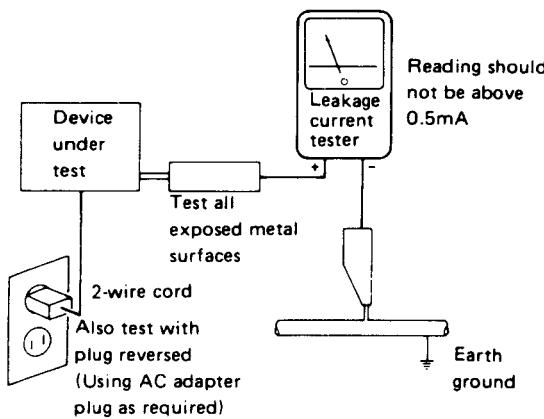
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

Cassette tape deck amplifier: DC-Z93

Amplifier Section

Continuously Average Power Output is 50 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz, with no more than 0.4 % total harmonic distortion.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.

Music power 90 W + 90 W (1 kHz, T.H.D. 1 %, 8 Ω)
 Music power (DIN) 90 W + 90 W (1 kHz, T.H.D. 1 %, 8 Ω)
 Peak music power 500 W (1 kHz, 10%, 6Ω)
 Continuous Power Output (DIN) 60 W + 60 W
 (1 kHz, T.H.D. 1 %, 8 Ω)
 Graphic equalizer frequency band 60 Hz, 150 Hz,
 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ± 7 dB
 Signal-to-Noise Ratio (IHF, short-circuited, A network)
 PHONO 72 dB
 Signal-to-Noise Ratio (DIN, continuous Power/50 mW)
 PHONO 68 dB/60 dB
 Total Harmonic Distortion
 (40 Hz to 20,000 Hz, 30 W, 8 ohms)** No more than 0.2 %

Tape Deck Section

Systems 4 track, 2-channel stereo
 Heads Recording/playback head x 2
 Erasing head x 2
 Motor DC servo 2 speed motor x 2
 Wow and Flutter No more than 0.09 % (WRMS)
 Fast Winding Time Approximately 95 seconds
 (C-60 tape)
 Frequency Response (-20 dB recording):
 Normal tape 35 Hz to 14,000 Hz ± 6 dB
 CrO₂ tape 35 Hz to 15,000 Hz ± 6 dB
 Metal tape 35 Hz to 16,000 Hz ± 6 dB
 Signal-to-Noise ratio
 Dolby NR OFF 56 dB (EIAJ)
 Noise Reduction Effect
 Dolby B type NR ON More than 10 dB (at 5 kHz)
 Dolby C type NR ON More than 17 dB (at 5 kHz)

Furnished Parts

Operating Instructions 1
 Remote control unit 1
 Dry cell batteries 2

Miscellaneous

Power requirements
 U.K. and Australian models a.c. 240 Volts~, 50/60 Hz
 Other destination models
 AC 110/120-127/220/240 V (switchable) 50/60 Hz
 Power Consumption 426 W
 Dimensions 360 (W) x 356 (H) x 329 (D) mm
 14-3/16 (W) x 14 (H) x 12-15/16 (D) in
 Weight (without package) 10.5 kg (23 lb 2 oz)

Accessories

EP Adaptor 1

• Specifications and design subject to possible modification without notice due to improvement.

** Measured By Audio Spectrum Analyzer.

3. EXPLODED VIEWS, PACKING AND PARTS LIST

3.1 EXTERIOR AND PACKING

Partslist of Exterior and Packing

NOTES:

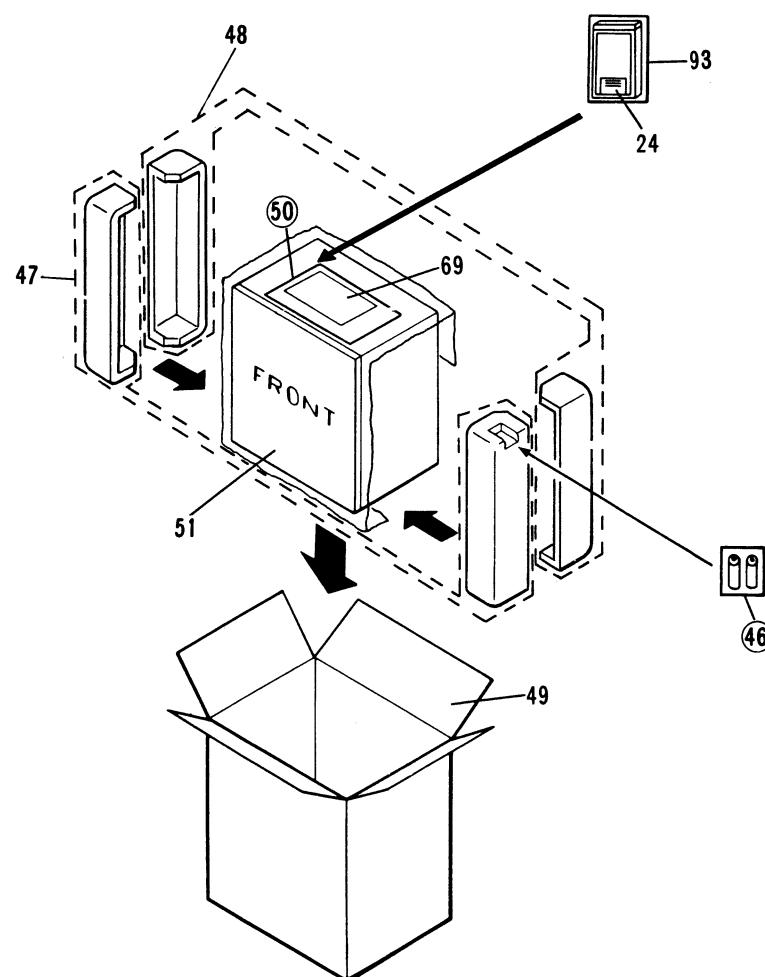
- Parts without part number cannot be supplied.
- The **▲** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “●” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
1	KNOB (VOLUME)		AAB1135		41	NYLON BINDER	
2	KNOB		AAB1136	▲	42	STRAIN RELIEF	AEC-882
3	BUTTON (ASES)		AAD1669		43	NYLON REVET	
4	BUTTON (POWER)		AAD1674		44	LEG ASSEMBLY	AEC1222
5	BUTTON (GOLD)		AAD1682		45	CLAMPER	
6	BUTTON (FUNCTION)		AAD1711		46	“AAA” DRY CELL	
7	BUTTON (GEQ)		AAD1712		47	FRONT PAD (L,R)	AHA1298
8	BUTTON (EQUALIZER)		AAD1713		48	REAR PAD (L,R)	AHA1299
9	BUTTON (REC)		AAD1714		49	PACKING CASE	AHD1792
10	BUTTON (EJECT)		AAD1716		50	LITERATURE BAG	
11	BUTTON (COPY)		AAD1717		51	SHEET	AHG1149
12	BUTTON (PLAY)		AAD1718		52	TERMINAL SCREW	
13	SLIDE KNOB		AAE1128		53	FRONT PANEL	AMB1637
14	DISPLAY LENS (POWER)		AAK1800		54	PLATE	
15	DECK ACCESSORY PANEL (U)		AAK1808		56	EJECT LEVER (L)	AMR2031
16	INDICATOR LENS		AAK1846		57	EJECT LEVER (R)	AMR2032
17	GEQ ACCESSORY PANEL (L)		AAK1923		58	CHASSIS	
18	GEQ ACCESSORY PANEL (R)		AAK1924		59	REAR PANEL	
19	DOOR ACCESSORY PANEL (L)		AAK1872		60	BONNET	ANE1224
20	DOOR ACCESSORY PANEL (R)		AAK1873		61	PLATE	
21	AMP ACCESSORY PANEL (D)		AAK1874		62	PLATE (B)	
22	AMP ACCESSORY PANEL (U)		AAK1875		63	PLATE	
23	DECK ACCESSORY PANEL (D)		AAK1876		64	PLATE	
24	BATTERY COVER		AZN1846		65	PLATE (A)	
25	CASSETTE DOOR (L)		AAN1177		66	PLATE	
26	CASSETTE DOOR (R)		AAN1178		67	HEAT SINK	
27	COUNTER		AAW1009		68	SHIELD PLATE	
28	...				69	OPERATING INSTRUCTIONS	ARB1218
29	LABEL (PAPER)		AAX1301		70	.....	.....
30	SCREW		ABA1084		71	.....	.....
31	SCREW (STEEL)		ABA1095		72	SPEANA ASSEMBLY	AWG1025
32	WASHER (PAPER)				73	FUNCTION ASSEMBLY	AWK1174
33	SPRING 1		ABH1062		74	AF ASSEMBLY	AWZ2630
34	SPRING 2		ABH1063		75	GEQ ASSEMBLY	AWG1034
35	KEEP PLATE		ABK1011		76	REC ASSEMBLY	AWK1242
36	EARTH LEAD				77	DOLBY C ASSEMBLY	AWK1243
37	EARTH LEAD				78	MAIN VR ASSEMBLY	
▲ 38	AC POWER CORD		ADG1052		79	HEAD PHONE ASSEMBLY	
39	COUNTER BELT		AEB1110		80	TRANS CONNECT ASSEMBLY	
40	SPACER				81	BALANCE ASSEMBLY	
					82	MIC ASSEMBLY	
					83	DECK-1 SW ASSEMBLY	
					84	DECK-2 SW ASSEMBLY	
					85	DECK CENTER ASSEMBLY	AWZ2644
4					86	DECK CTRL ASSEMBLY	AWZ2645

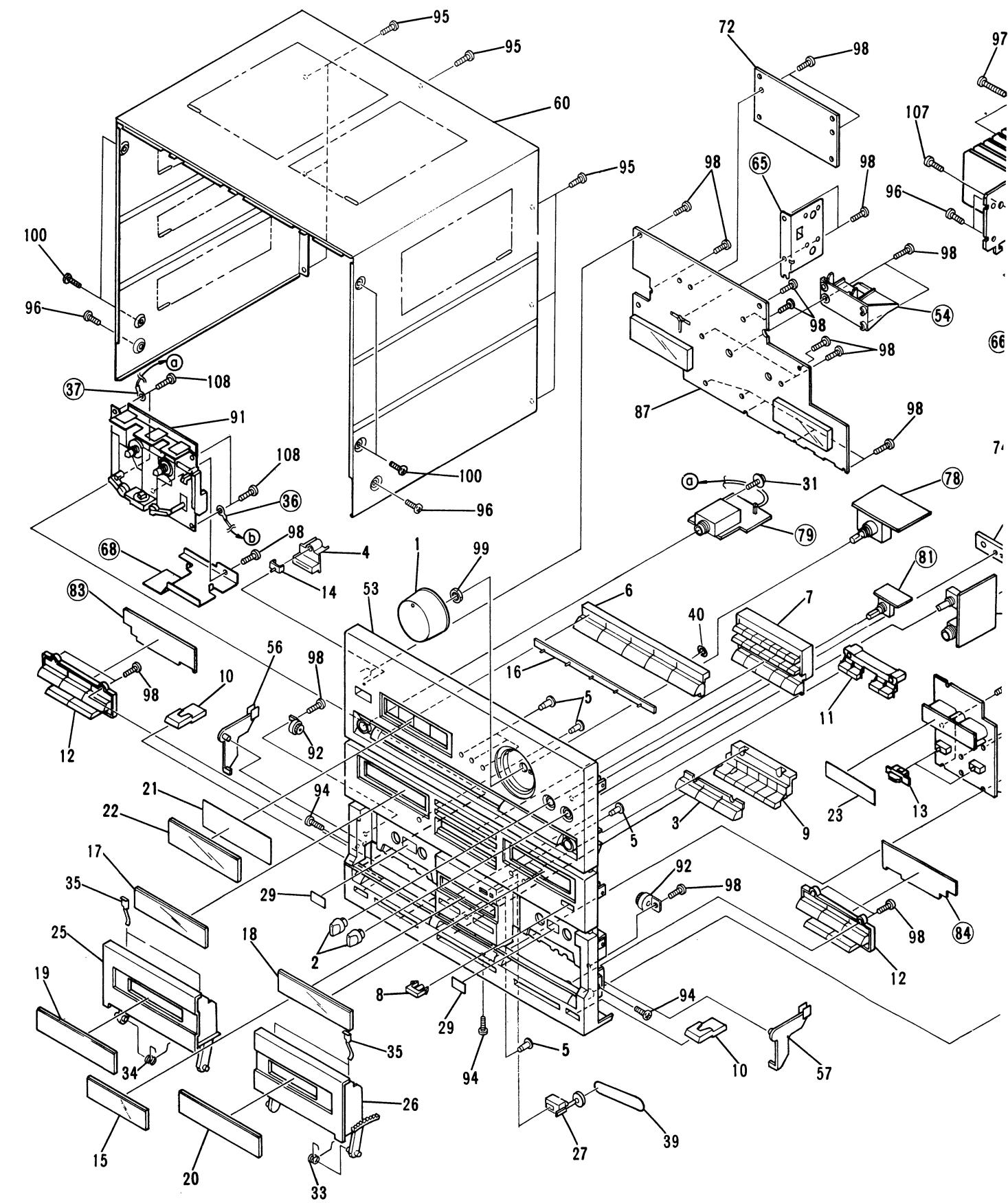
Mark	No.	Description	Parts No.
87		AMP, GEQ CTRL ASSEMBLY	AWZ2646
88		POWER SUPPLY ASSEMBLY	AWZ2241
89		CONNECT ASSEMBLY	
90		MECHA UNIT (2)	AWY1054
91		MECHA UNIT (1)	AWY1056
92		DAMPER ASSEMBLY	AXA1008
93		REMOTE CONTROL UNIT	AXD1132
94		SCREW	BBZ30P060FCM
95		SCREW	BBZ30P080FCU
96		SCREW	BBZ30P080FZK

Mark	No.	Description	Parts No.
	97	SCREW	BBZ30P180FMC
	98	SCREW	BPZ26P080FMC
	99	NUT	NK90FUC
	100	SCREW	VPZ30P080FZK
⚠	101	FU2001FUSE (T2A)	AEK-511
⚠	102	FU2003 FUSE (T1.6A)	AEK-510
⚠	103	FU2004 FUSE (T1.25A)	AEK-509
⚠	104	FU2005 FUSE (T1.25A)	AEK-509
⚠	105	T2001 POWER TRANSFORMER	ATS1254
	106	P.C.B SPRING	ABH1055
	107	SCREW	BBZ30P100FZK
	108	SCREW	VPZ30P080FMC

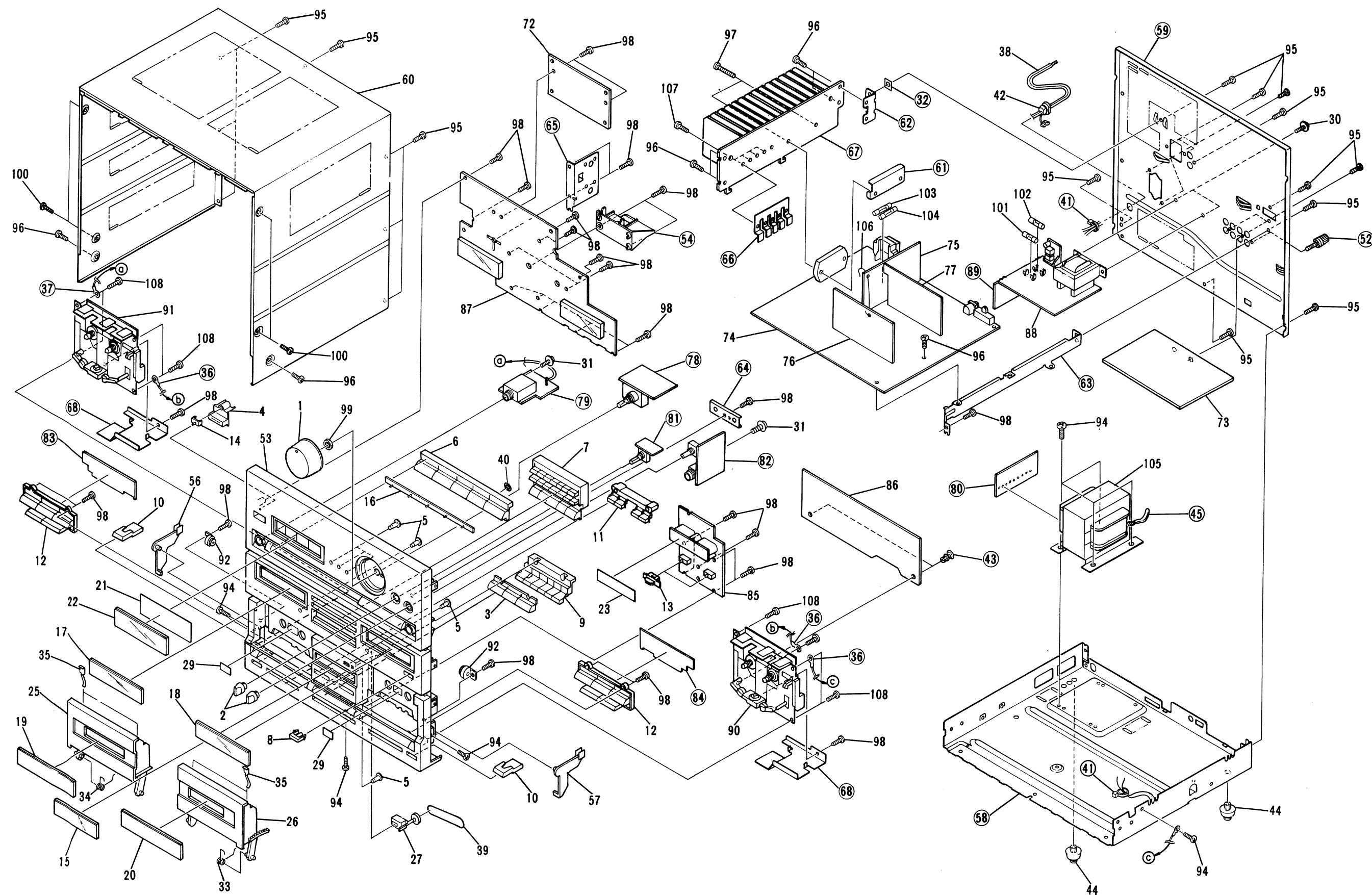
Packing



Exterior



Exterior



3.2 MECHA UNIT (1) (AWY1056)

Parts list of Mecha unit (1)

Mark	No.	Parts No.	Description
1	AZE1018	Hall IC	
2	AZX1019	Motor	
3	AZS1054	Leaf SW (MODE)	
4	AZS1034	Leaf SW (ARF, HALF, METAL, CrO ₂ , ARR)	
5	AZN1286	Drive arm assembly	
6	AZN1287	FW assembly A	
7	AZN1288	Cam gear	
8	AZN1289	Reel	
9	AZN1971	FR arm	
10	AZN1972	Pinch roller L assembly	
11	AZN1973	Pinch roller R assembly	
12	AZN1293	Gear	
13	AZN1294	H Gear	
14	AZN1793	CUE arm	
15	AZB1079	Screw	
16	.....	.....
17	AZN1984	Collar	
18	AZN1297	Motor pully	
19	AZN1298	Belt	
20	AZN1299	Spring	
21	AZN1300	FR lever spring	
22	AZN1301	FWF spring	
23	AZN1302	FWR spring	
24	AZN1303	Spring	
25	AZB1297	Screw	
26	AZN1305	Cable holder	
27	AZN1306	Spring	
28	AZN1307	Spring	
29	AZN1308	Spring	
30	AZN1309	Spring	
31	AZN1310	Spring	
32	AZN1311	Spring	
33	AZN1312	Spring	
34	AZN1313	Spring	
35	AZN1314	Spring	
36	AZN1315	Spring	
37	AZB1081	Screw	
38	AZN1316	Nylon band	
39	AZN1983	P.C.board	
40	.....	Jumper wire	
41	.....	Head lead	
42	.....	Lead wire	
43	.....	Lead wire	
44	.....	.....
45	.....	Mecha P.C.board calking assembly	
46	AZN1319	R reel assembly	
47	AZN1320	F reel assembly	
48	AZN1321	Reverse arm calking assembly	
49	.....	FR lever calking assembly	
50	AZN1975	PLAY lever calking assembly	

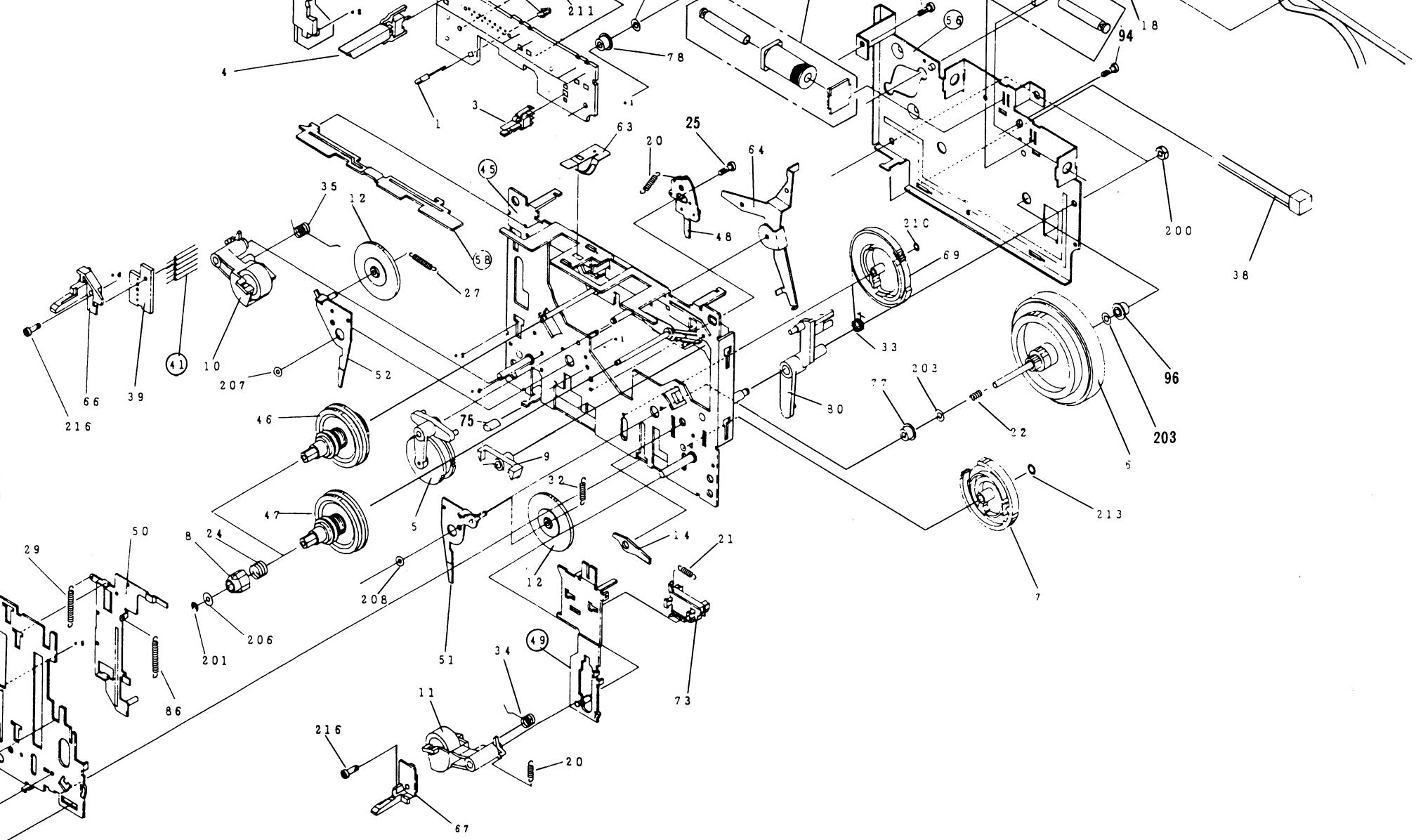
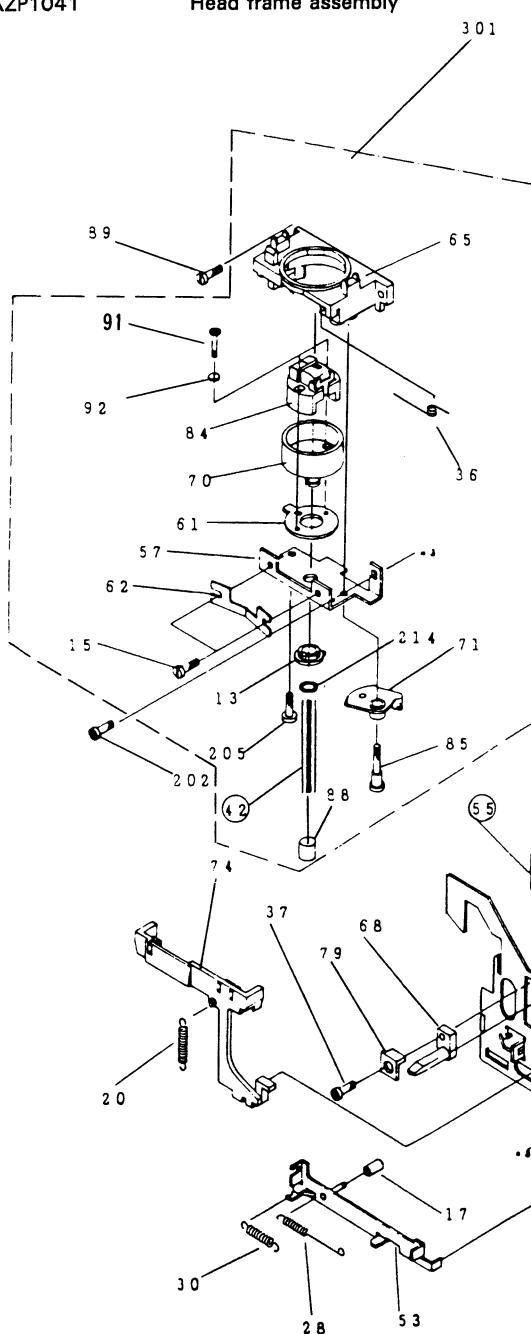
Mark	No.	Parts No.	Description
	51	AZN1976	Gear arm R
	52	AZN1977	Gear arm L
	53	AZN1326	Head lever calking assembly
	54	AZN1327	FW assembly
	55	.....	Head P.C.board
	56	.....	Plate (FLY WHEEL)
	57	AZN1328	Azimuth plate
	58	.....	SW arm
	59	.....	.....
	60	.....	.....
	61	AZN1330	Head arm
	62	AZN1331	Azimuth spring
	63	AZN1332	Cassette stopper
	64	AZN1978	Trigger arm
	65	AZN1334	Head frame
	66	AZN1335	Cassette guide L
	67	AZN1336	Cassette guide R
	68	AZN1337	Cassette guide
	69	AZN1338	Cam gear
	70	AZN1979	Head holder
	71	AZN1340	Head gear
	72	AZN1980	Eject arm 2
	73	AZN1342	Select lever
	74	AZN1343	Brake
	75	AZN1468	Tube
	76	AZN1981	Ratch lever L
	77	AZN1346	Metal
	78	AZN1347	Metal
	79	AZN1348	Cushion
	80	AZN1349	Trigger arm
	81	.....	.....
	82	AZS1085	Solenoid
	83	.....	.....
	84	AZP1014	R/P/E Head
	85	AZB1099	Screw
	86	AZN1352	Spring
	87	AZN1304	Spacer
	88	AZN1470	Tube
	89	AZB1100	Screw
	90	AZS1087	Solenoid
	91	AZB1101	Screw
	92	AZB1102	Spring washer
	93	.....	.....
	94	AZB1298	Screw
	95	AZN1833	Capstan holder
	96	AZN1834	Capstan holder
	97	.....	Holder

Mark	No.	Parts No.	Description
	205	AZB1089	U screw
	206	AZB1090	P washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209	.....	.....

Mark	No.	Parts No.	Description
	210	AZB1094	P washer
	211	AZB1095	D screw
	212	.....	.....
	213	AZB1097	P washer
	214	AZB1098	M washer
	215	AZB1105	P screw
	216	AZB1106	D screw
	300	AZX1020	Motor assembly
	301	AZP1041	Head frame assembly

Mark	No.	Parts No.	Description
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Mark	No.	Parts No.	Description
	205	AZB1089	U screw
	206	AZB1090	P washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209	.....
A	210	AZB1094	P washer
	211	AZB1095	D screw
	212	.....
	213	AZB1097	P washer
	214	AZB1098	M washer
	215	AZB1105	P screw
	216	AZB1106	D screw
	300	AZX1020	Motor assembly
	301	AZP1041	Head frame assembly



A

B

C

D

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3.3 MECHA UNIT (2) (AWY1054)

Parts list of Mecha unit (2)

Mark	No.	Parts No.	Description
1	AZE1018	Hall IC	
2	AZX1019	Motor	
3	AZS1054	Leaf SW (MODE)	
4	AZS1034	Leaf SW (ARF, HALF, METAL, CrO2, ARR)	
5	AZN1286	Drive arm assembly	
6	AZN1287	FW assembly A	
7	AZN1288	Cam gear	
8	AZN1289	Reel	
9	AZN1971	FR arm	
10	AZN1972	Pinch roller L assembly	
11	AZN1973	Pinch roller R assembly	
12	AZN1293	Gear	
13	AZN1294	H Gear	
14	AZN1793	CUE arm	
15	AZB1079	Screw	
16	AZB1080	Screw	
17	AZN1984	Collar	
18	AZN1297	Motor pully	
19	AZN1298	Belt	
20	AZN1299	Spring	
21	AZN1300	FR lever spring	
22	AZN1301	FWF spring	
23	AZN1302	FWR spring	
24	AZN1303	Spring	
25	AZB1297	Screw	
26	AZN1305	Cable holder	
27	AZN1306	Spring	
28	AZN1307	Spring	
29	AZN1308	Spring	
30	AZN1309	Spring	
31	AZN1310	Spring	
32	AZN1311	Spring	
33	AZN1312	Spring	
34	AZN1313	Spring	
35	AZN1314	Spring	
36	AZN1315	Spring	
37	AZB1081	Screw	
38	AZN1316	Nylon band	
39	AZN1983	P.C.board	
40		Jumper wire	
41		Head lead	
42		Lead wire	
43		Wire	
44		.....
45		Mecha P.C.board calking assembly	
46	AZN1319	R reel assembly	
47	AZN1320	F reel assembly	
48	AZN1321	Reverse arm calking assembly	
49		FR lever calking assembly	
50	AZN1975	PLAY lever calking assembly	

Mark	No.	Parts No.	Description
	51	AZN1976	Gear arm R
	52	AZN1977	Gear arm L
	53	AZN1326	Head lever calking assembly
	54	AZN1327	FW assembly
	55		Head P.C.board
	56		Plate (FLY WHEEL)
	57	AZN1328	Azimuth plate
	58		SW arm
	59	AZN1988	Eject arm L
	60	AZN1989	Eject arm R
	61	AZN1330	Head arm
	62	AZN1331	Azimuth spring
	63	AZN1332	Cassette stopper
	64	AZN1978	Trigger arm
	65	AZN1334	Head frame
	66	AZN1335	Cassette guide L
	67	AZN1336	Cassette guide R
	68	AZN1337	Cassette guide
	69	AZN1338	Cam gear
	70	AZN1979	Head holder
	71	AZN1340	Head gear
	72	AZN1980	Eject arm 2
	73	AZN1342	Select lever
	74	AZN1343	Brake
	75	AZN1468	Tube
	76	AZN1985	Ratch lever R
	77	AZN1346	Metal
	78	AZN1347	Metal
	79	AZN1348	Cushion
	80	AZN1349	Trigger arm
	81		.....
	82	AZS1085	Solenoid
	83		.....
	84	AZP1014	R/P/E Head
	85	AZB1099	Screw
	86	AZN1352	Spring
	87	AZN1304	Spacer
	88	AZN1470	Tube
	89	AZB1100	Screw
	90	AZS1087	Solenoid
	91	AZB1101	Screw
	92	AZB1102	Spring washer
	93		...
	94	AZB1298	Screw
	95	AZN1833	Capstan holder
	96	AZN1834	Capstan holder
	97	AZN1344	Eject lever L
	98		.....
	99		Holder

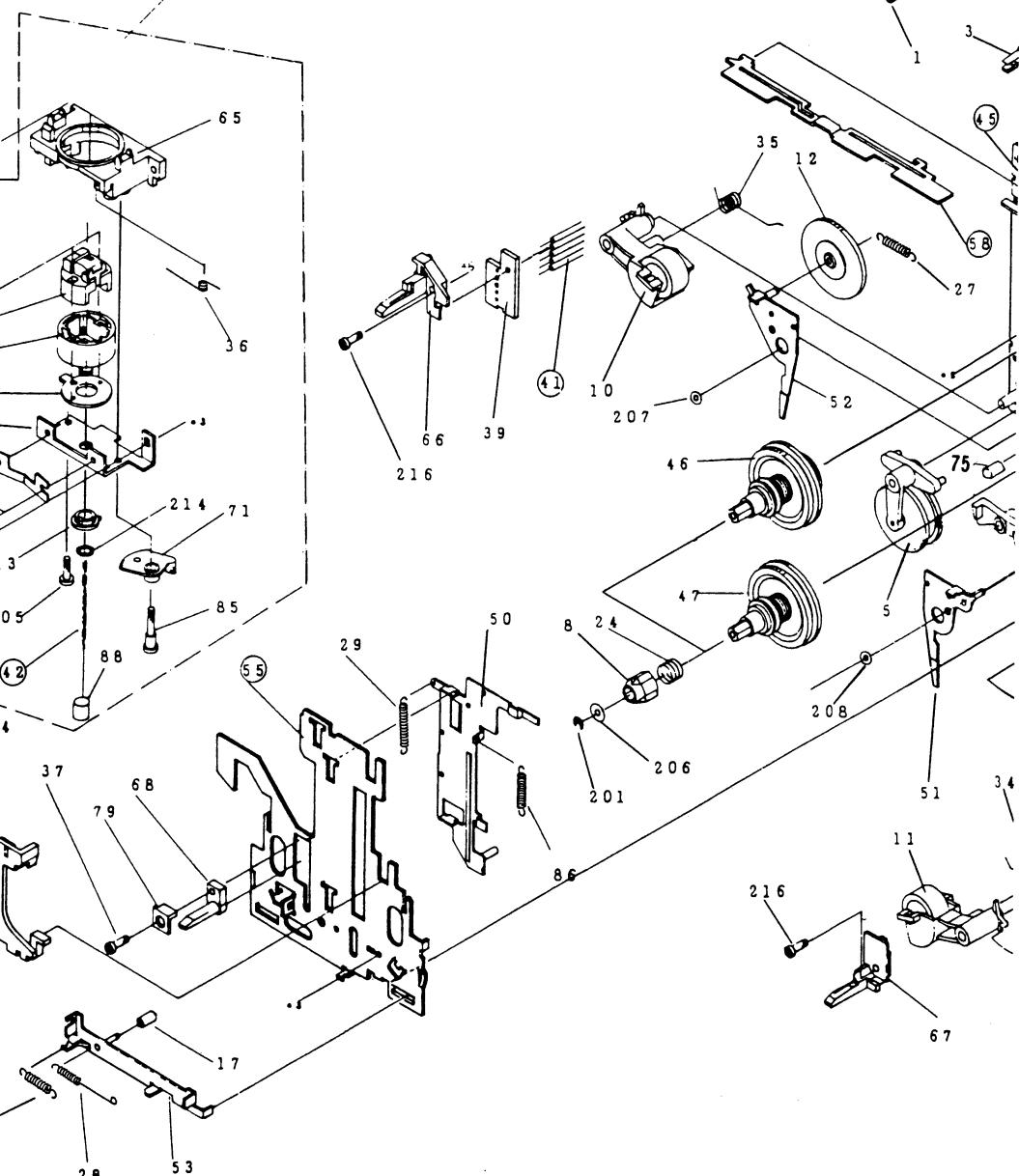
Mark	No.	Parts No.	Description
	200	AZB1084	Nut
	201	AZB1085	E ring
	202	AZB1086	D screw
	203	AZB1121	P washer
	204	AZB1087	N washer

A	205	AZB1089	U screw
	206	AZB1090	P washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209		.....

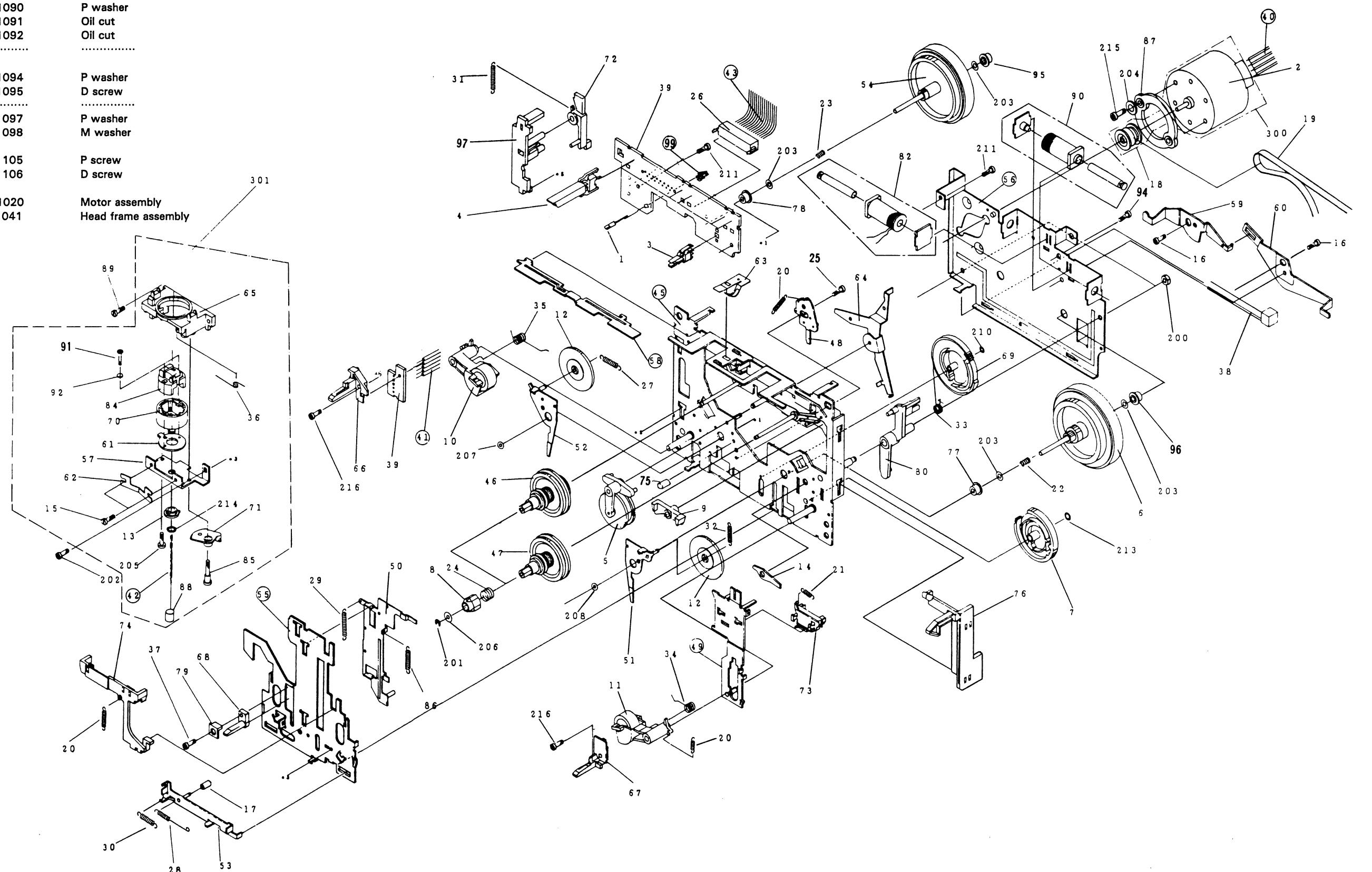
—	210	AZB1094	P washer
	211	AZB1095	D screw
	212		.....
	213	AZB1097	P washer
	214	AZB1098	M washer

—	215	AZB1105	P screw
	216	AZB1106	D screw

300 AZX1020
301 AZP1041



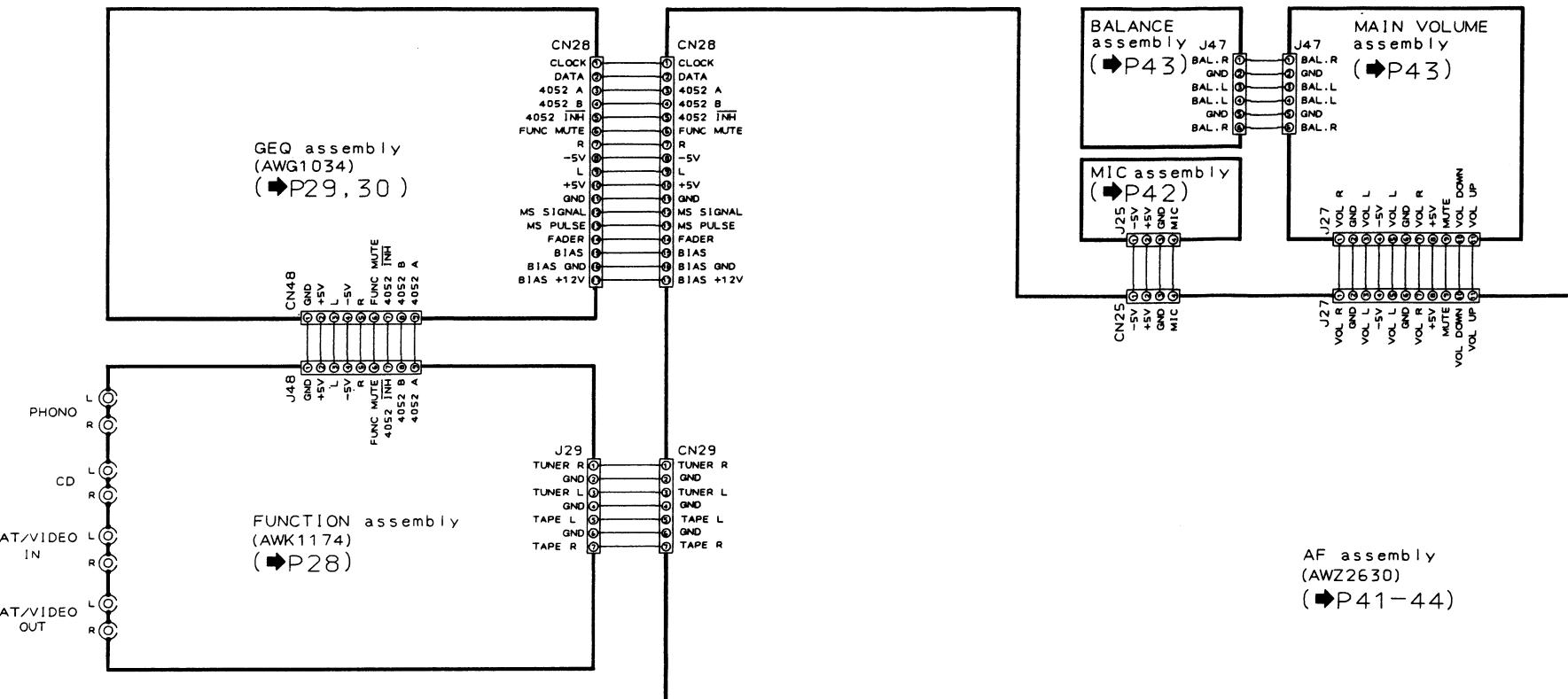
Mark	No.	Parts No.	Description
	200	AZB1084	Nut
	201	AZB1085	E ring
	202	AZB1086	D screw
	203	AZB1121	P washer
	204	AZB1087	N washer
A	205	AZB1089	U screw
	206	AZB1090	P washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209	.....	.....
	210	AZB1094	P washer
	211	AZB1095	D screw
	212	.....	.....
	213	AZB1097	P washer
	214	AZB1098	M washer
	215	AZB1105	P screw
	216	AZB1106	D screw
	300	AZX1020	Motor assembly
	301	AZP1041	Head frame assembly



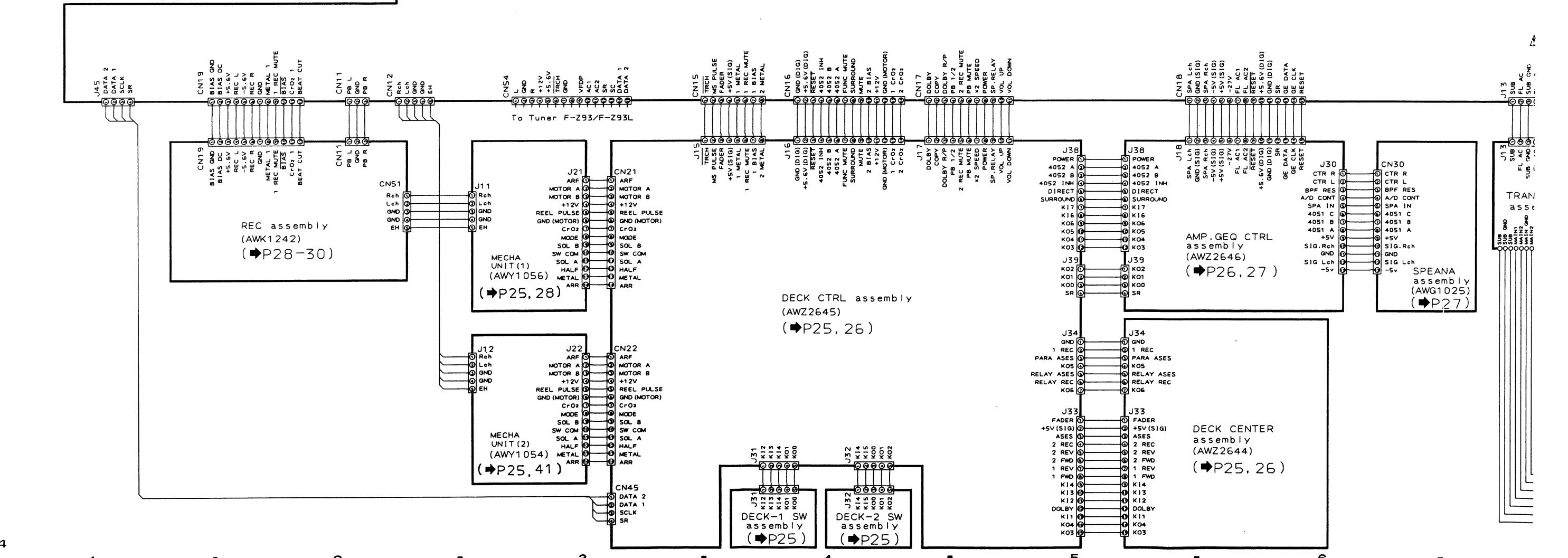
4. SCHEMATIC DIAGRAMS AND P.C.BOARD CONNECTION DIAGRAMS

4.1 OVER ALL SCHEMATIC DIAGRAM

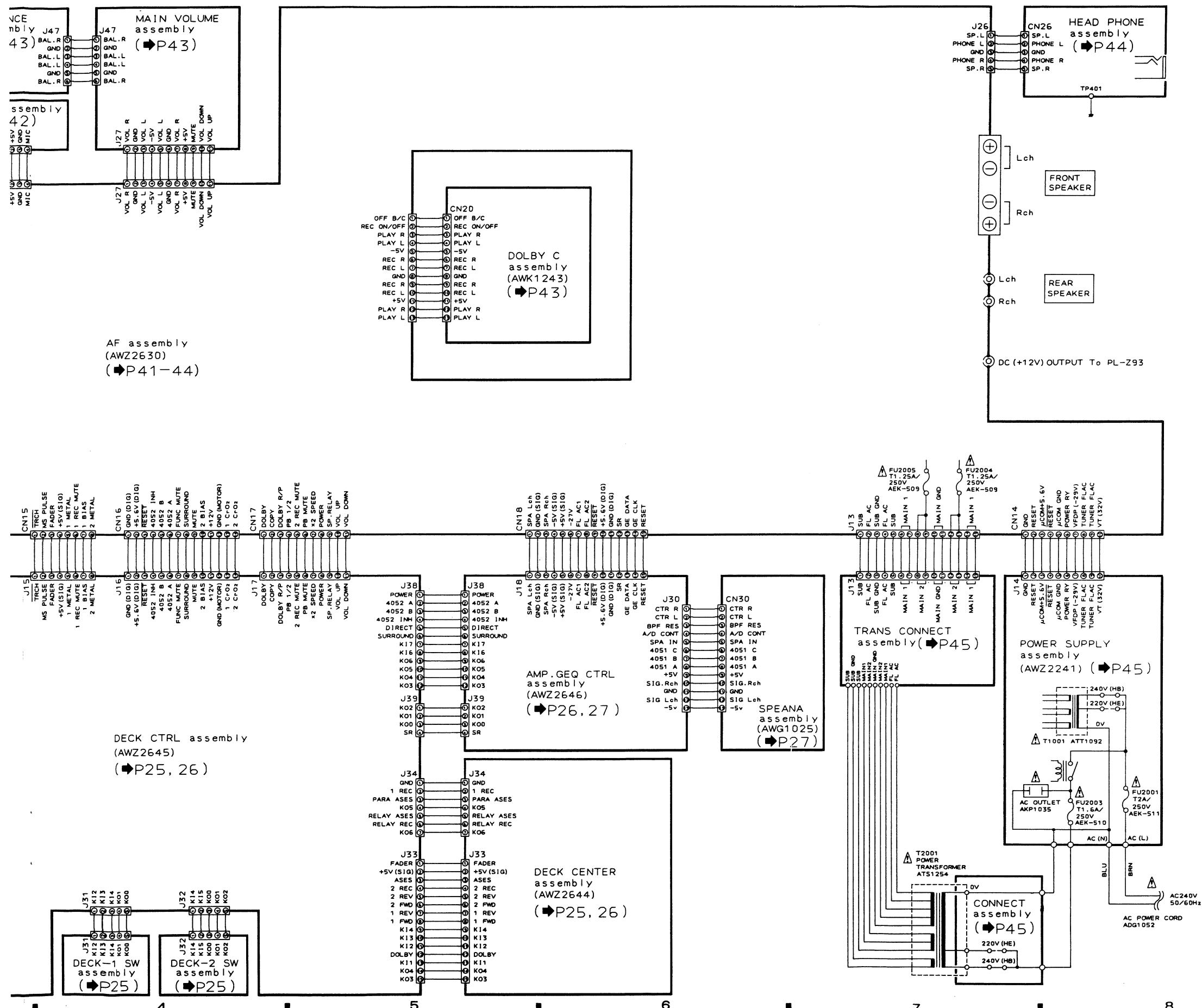
A



B



MS



1. RESISTORS:
 Indicated in Ω , $\%W$, $\%W, \pm 5\%$ tolerance unless otherwise noted $k : k\Omega$,
 $M : M\Omega$, (F) : $\pm 1\%$, (G) : $\pm 2\%$, (K) : $\pm 10\%$ (M) : $\pm 20\%$ tolerance

2. CAPACITORS:
 Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
 Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
 : Signal voltage at (60 W + 60 W 8 Ω)output (1kHz)
 : DC voltage (V) at no input signal
 Value in () is DC voltage at rated power.
 mA : DC current at no input signal

4. OTHERS:
 : Signal route.
 : Adjusting point.
 The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 * marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

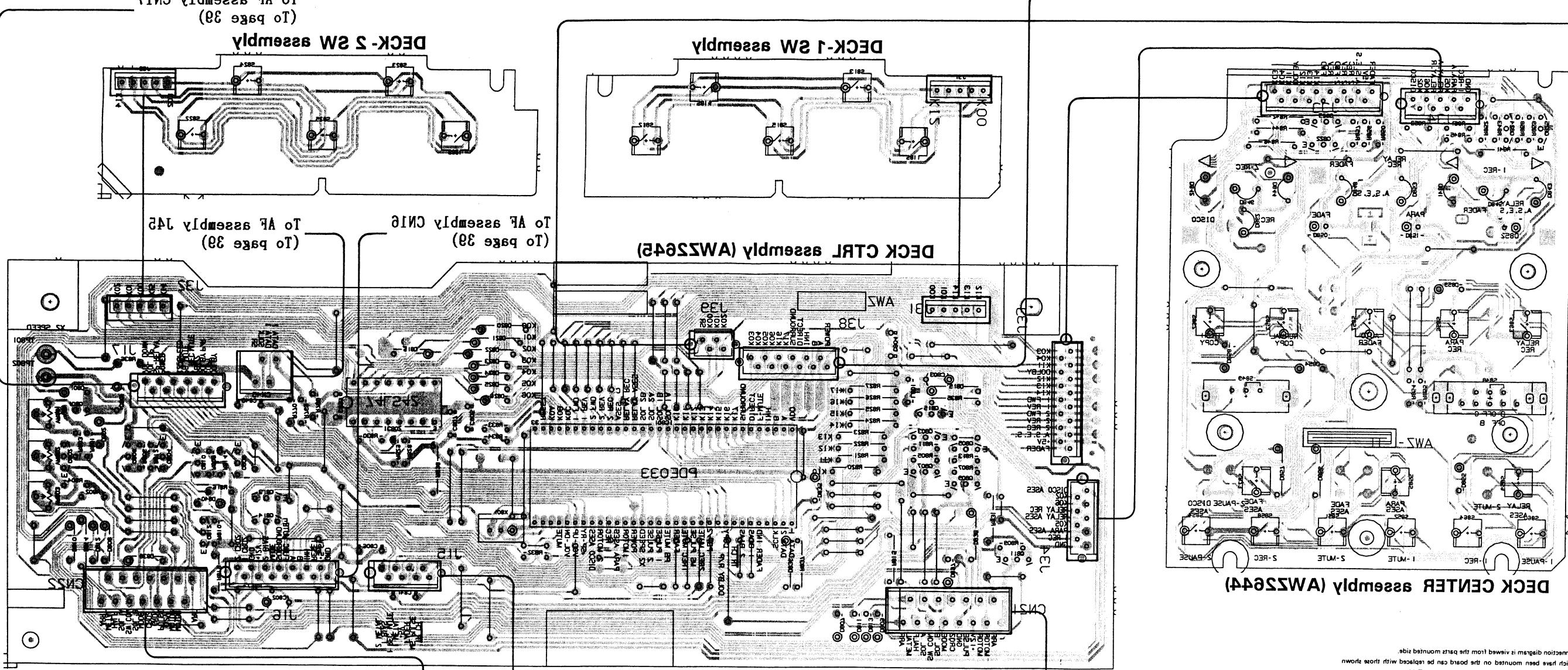
DECK-1 SW assembly		AMP, GEQ CTRL assembly
S811	1FWD	S707 PHONO
S812	1REV	S711 TUNER
S813	1FF	S713 SURROUND
S814	1REW	S714 DAT DIRECT
S815	1STOP	S715 DAT
DECK-2 SW assembly		S716 CD DIRECT
S821	2FWD	S717 POWER
S822	2REV	S718 CD
S823	2FF	S722 TAPE
S824	2REW	S771 60Hz +
S825	2STOP	S772 150Hz +
DECK CENTER assembly		S773 400Hz +
S848	<u>DOLBY OFF</u> —B—C	S774 1kHz +
S849	REVERSE MODE	S775 2.4kHz +
S851	DECK-2 MUTE	S776 6kHz +
S852	DECK-1 MUTE	S777 15kHz +
S853	COPY	S778 60Hz -
S854	DECK-2 PAUSE	S779 150Hz -
S855	PARA A.S.E.S	S780 400Hz -
S856	PARA REC	S781 1kHz -
S857	FADER	S782 2.4kHz -
S858	DECK-2 REC	S783 6kHz -
S859	RELAY A.S.E.S	S784 15kHz -
S860	DECK-1 PAUSE	S785 A
S862	HI-SPEED COPY	S786 B
S863	RELAY REC	S787 C
S864	DECK-1 REC	S788 D
S873	A.S.E.S	S789 E
		S790 PRESET/MEMORY
		S791 EQUALIZER ON/OFF
		S792 FLAT/REVERSE
		S793 MEMORY

The underline indicates the switch position

1

1

1

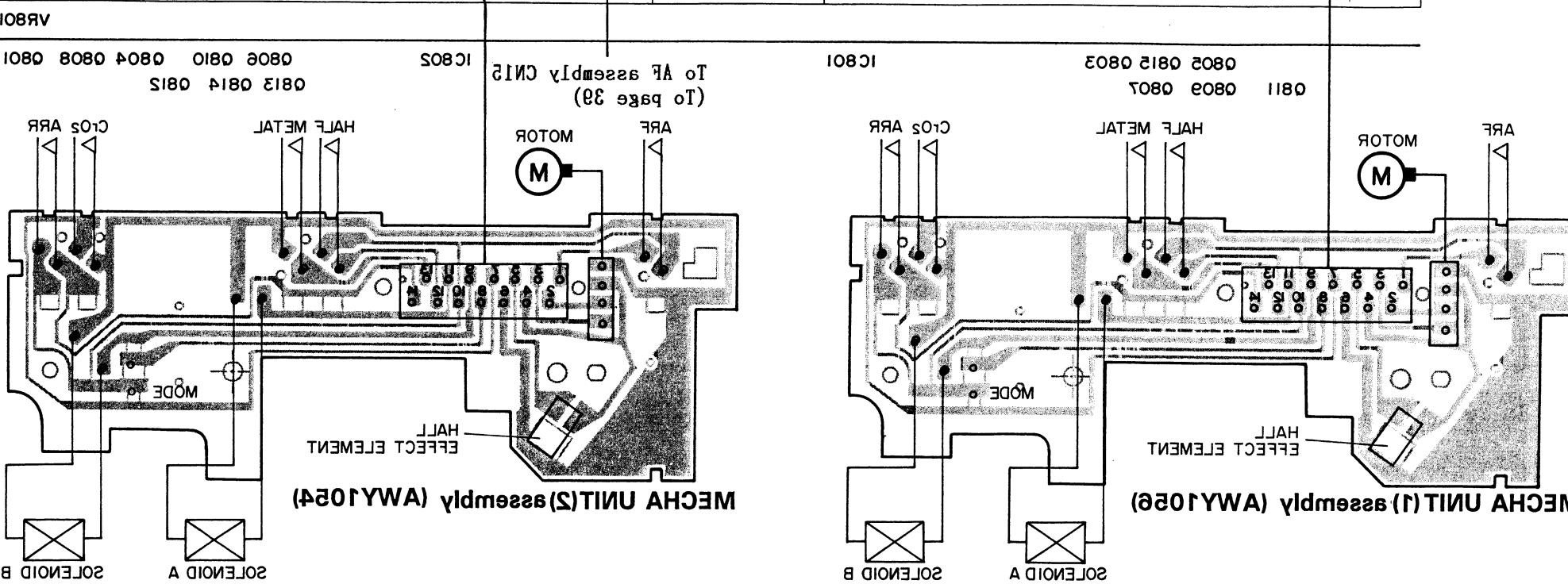


NOTE
1. This PC-B connection diagram is viewed from the back panel side.
2. The back panel number is not used on the back panel side.
3. The back panel number is used on the back panel side.

PC-B, back panel connection diagram	Component name	Part name
0804 0809	Transistor	Transistor
0812	Resistor	Resistor
0823 0	Diode	Diode
0831 0	Resistor	Resistor
0832 0	Capacitor (Non-polarized)	Capacitor (Non-polarized)
0833 0	Capacitor (Polarized)	Capacitor (Polarized)

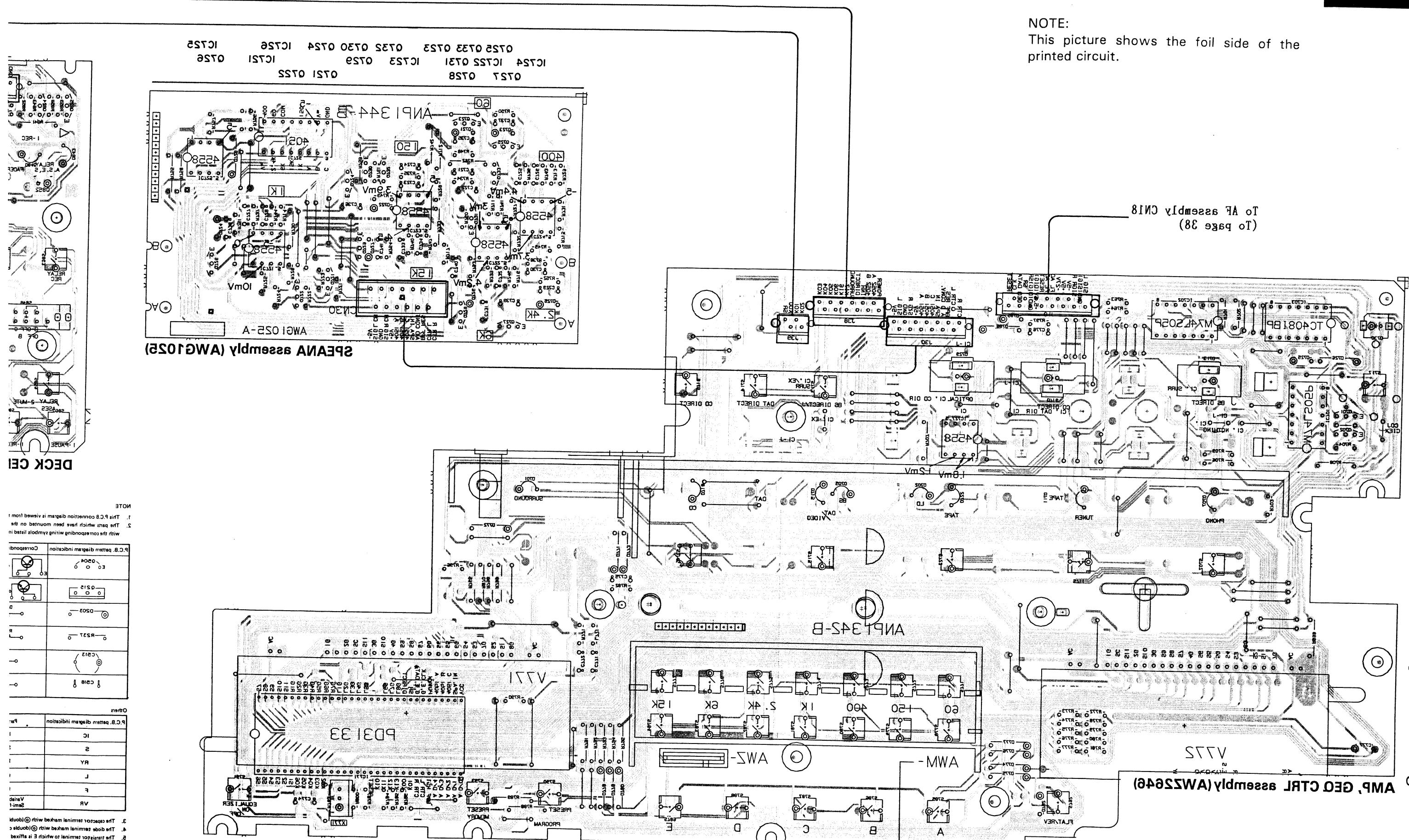
PC-B, back panel connection diagram	Part name
10	IC
2	Switch
RY	Relay
L	Coil
F	Filter
AV	AV

NOTE
1. The capacitor terminal must be connected with (b) (one end) towards the chassis.
2. The diode terminal must be connected with (b) (one end) towards the chassis.
3. The transistor terminal must be connected with (b) (one end) towards the chassis.



NOTE:

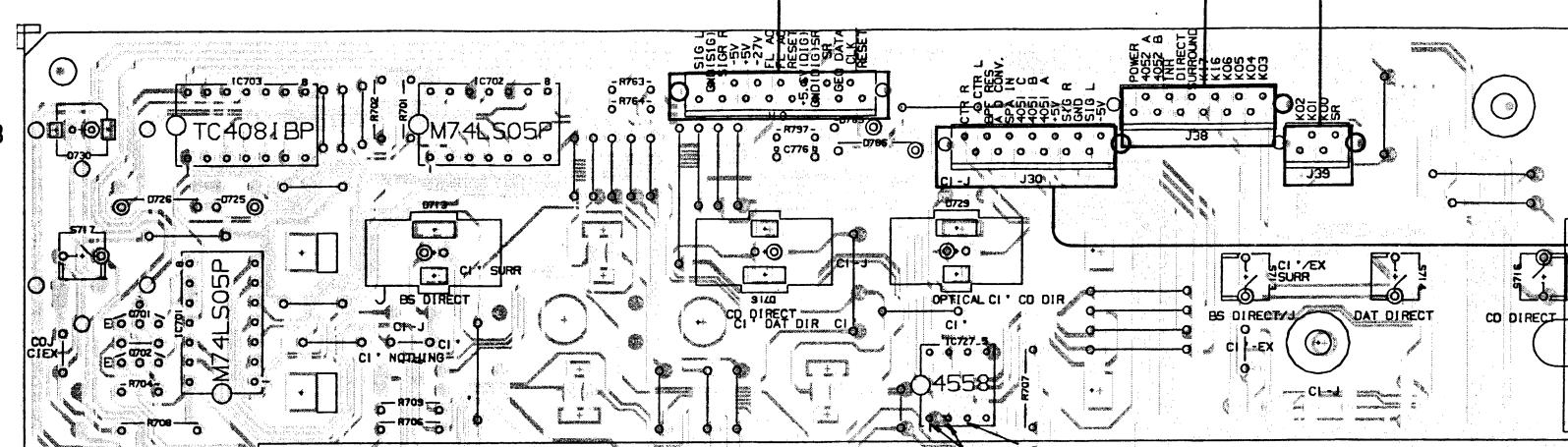
This picture shows the foil side of the printed circuit.



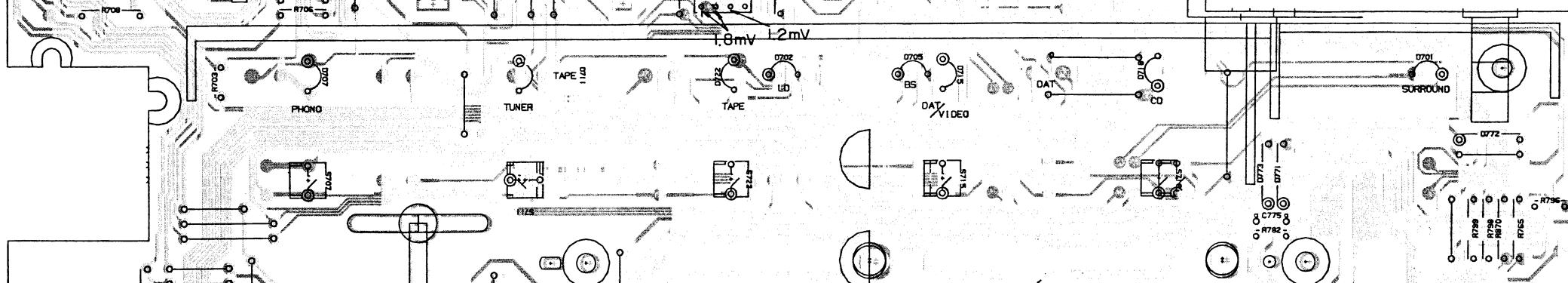
4.2 AMP, GEQ CTRL (AWZ2646), DECK-1 SW, DECK- 2 SW, SPEANA (AWG1025),
 DECK CTRL (AWZ2645), DECK CENTER (AWZ2644) assembly,
 MECHA UNIT(1)(AWY1056) and MECHA UNIT(2)(AWY1054).

A

To AF assembly CN18
 (To page 38)

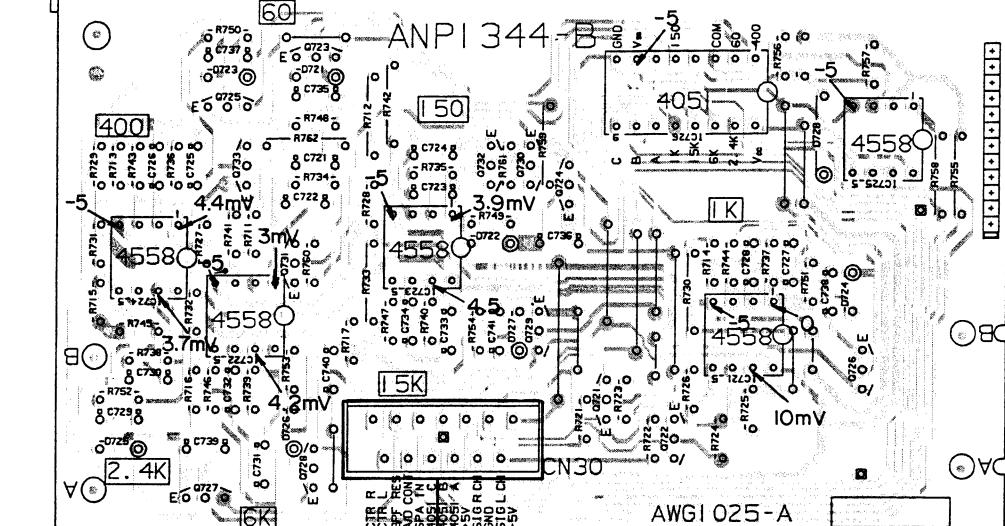


C

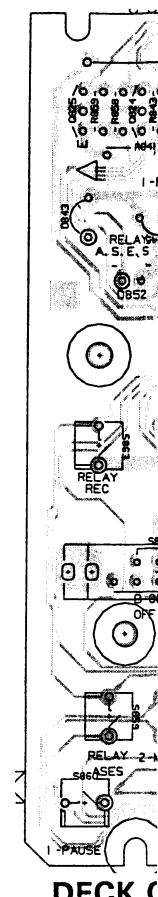


AMP, GEQ CTRL assembly (AWZ2646)

Q725 Q733 Q723 Q732 Q730 Q724 IC726 IC725
 IC724 IC722 Q731 IC723 Q729 IC721 IC726
 Q727 Q728 Q721 Q722



SPEANA assembly (AWG1025)



NOTE

1. This P.C.B connection diagram is viewed
2. The parts which have been mounted o with the corresponding wiring symbols li

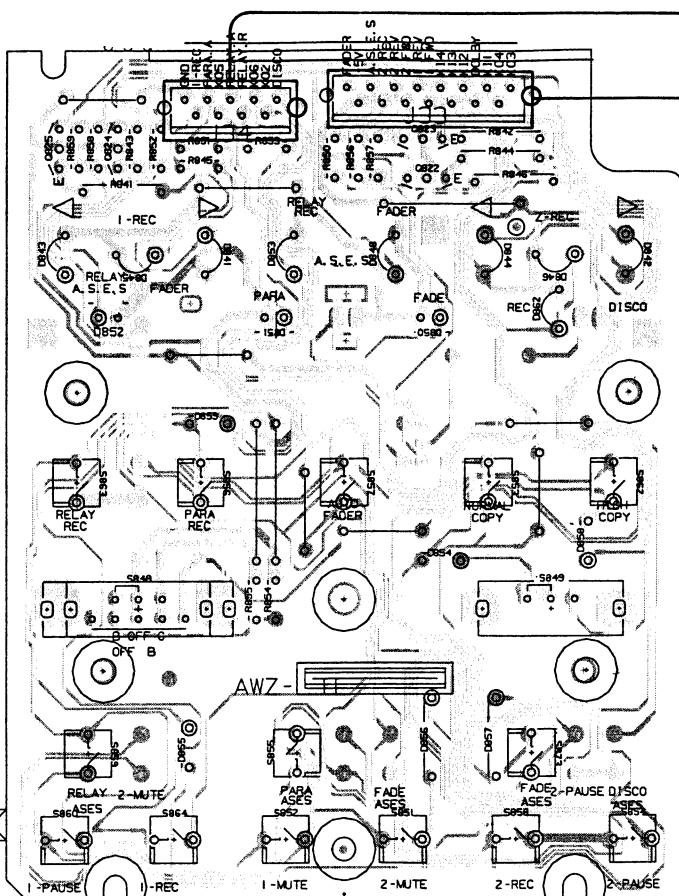
P.C.B. pattern diagram indication	Corresponding wiring symbol
EO 0504	EO
0215	0
D203	D
R237	R
C513	C
C518	C

Others

P.C.B. pattern diagram indication	IC
S	S
RY	RY
L	L
F	F
VR	V

3. The capacitor terminal marked with \odot is connected to ground.
4. The diode terminal marked with \odot is connected to ground.
5. The transistor terminal to which E is connected is connected to ground.

To AF assembly CN17
(To page 39)



DECK CENTER assembly (AWZ2644)

NOTE

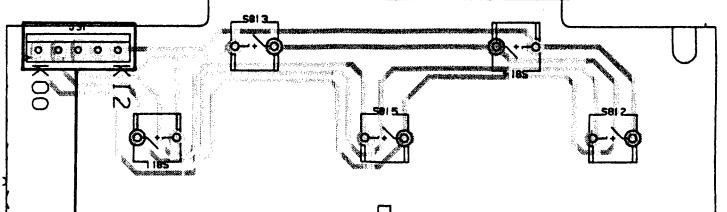
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
0504	EO or	Transistor
0215	EO or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	C513	Capacitor (Polarity)
C518	C518	Capacitor (Non-polarity)

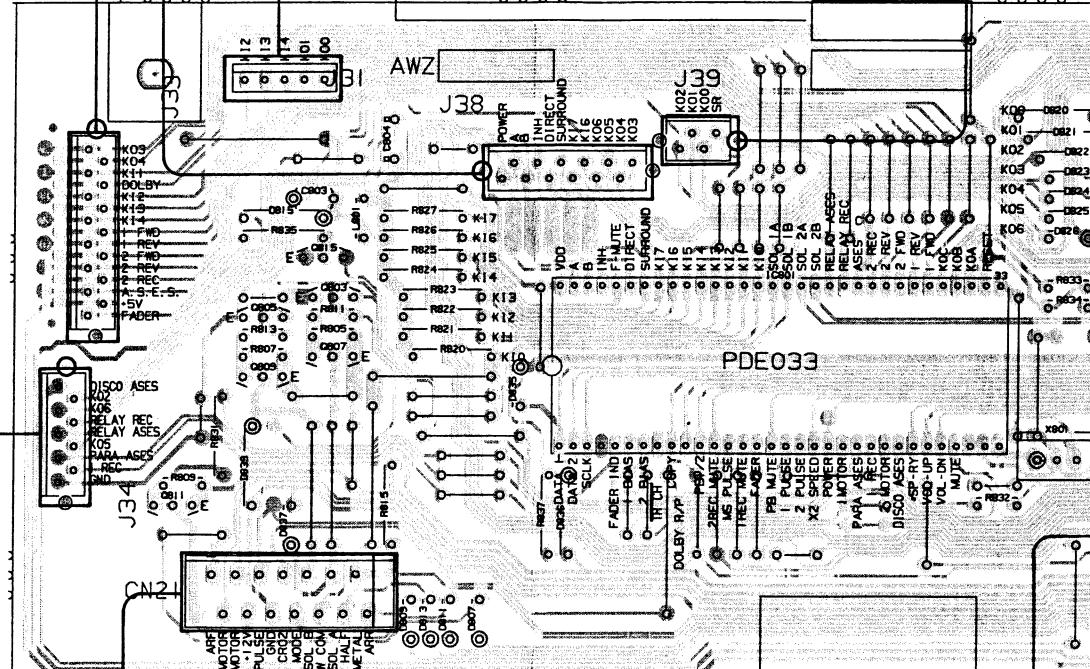
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with (double circle) shows negative terminal.
4. The diode terminal marked with (double circle) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

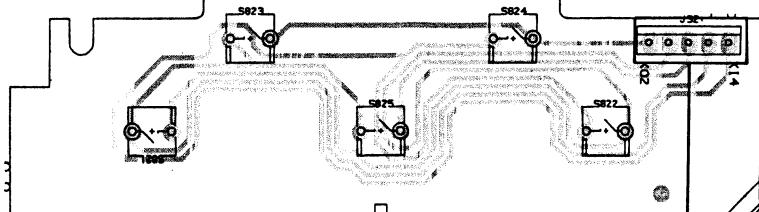
DECK-1 SW assembly



DECK CTRL assembly (AWZ2645)

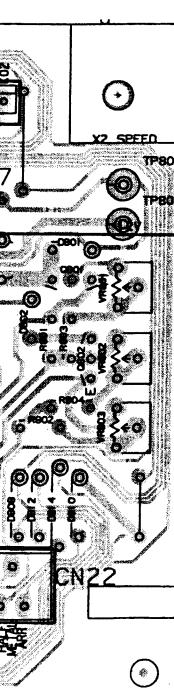


DECK-2 SW assembly



To AF assembly CN16
(To page 39)

To AF assembly J45
(To page 39)



VR801-VR803

A

B

C

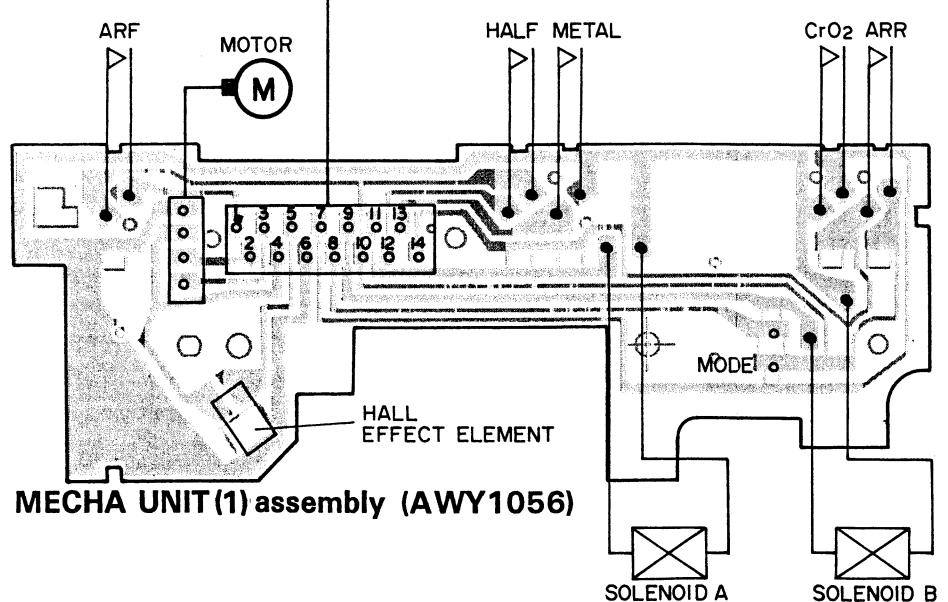
D

IC801

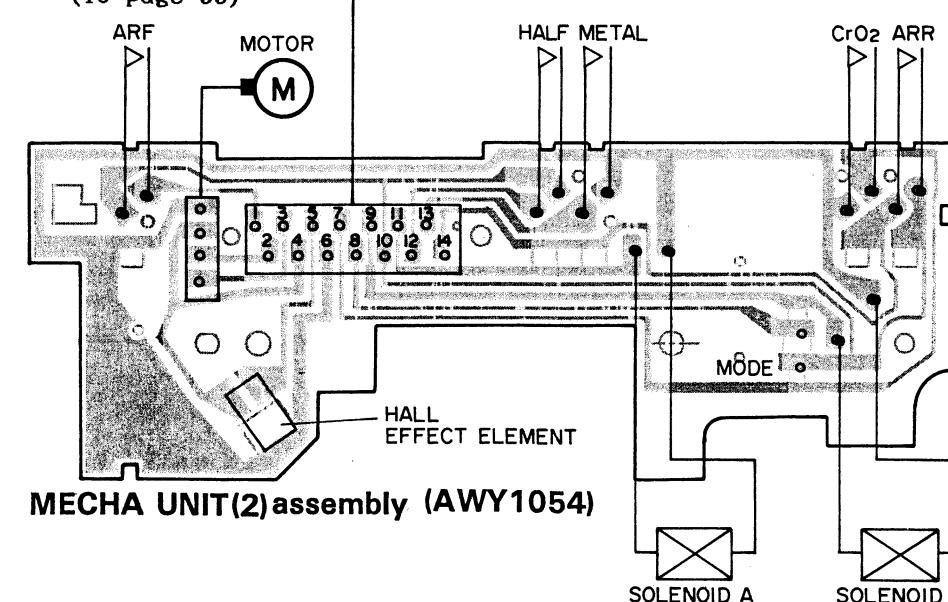
To AF assembly CN15
(To page 39)

IC802

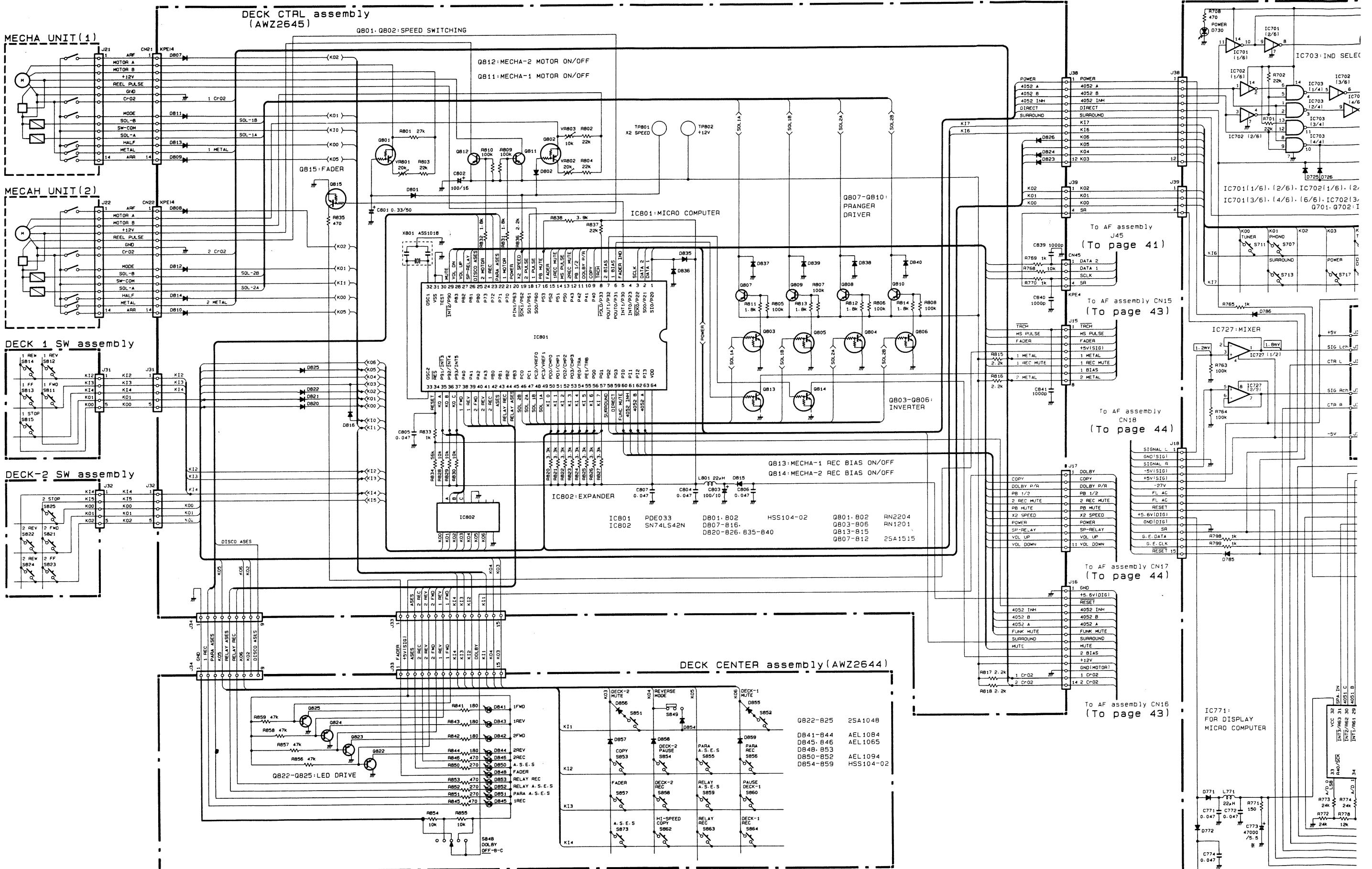
Q806 Q810 Q804 Q808 Q801 Q802
Q813 Q814 Q812

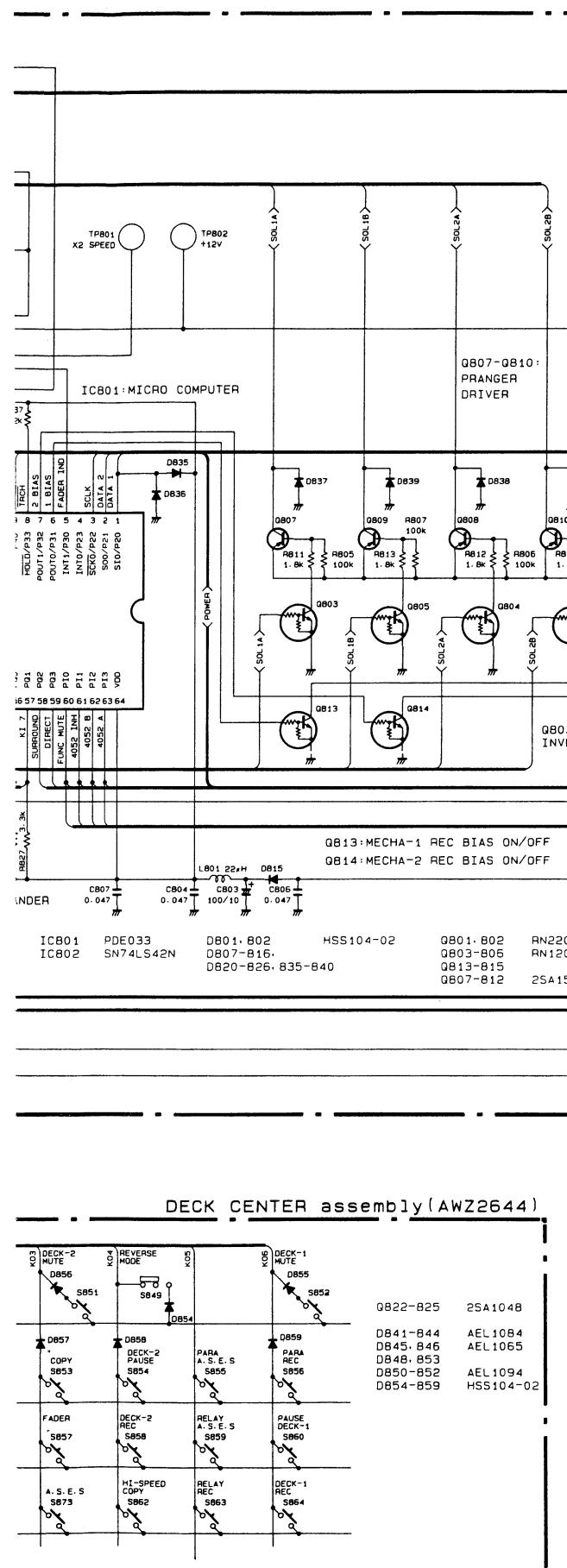


MECHA UNIT(1) assembly (AWY1056)

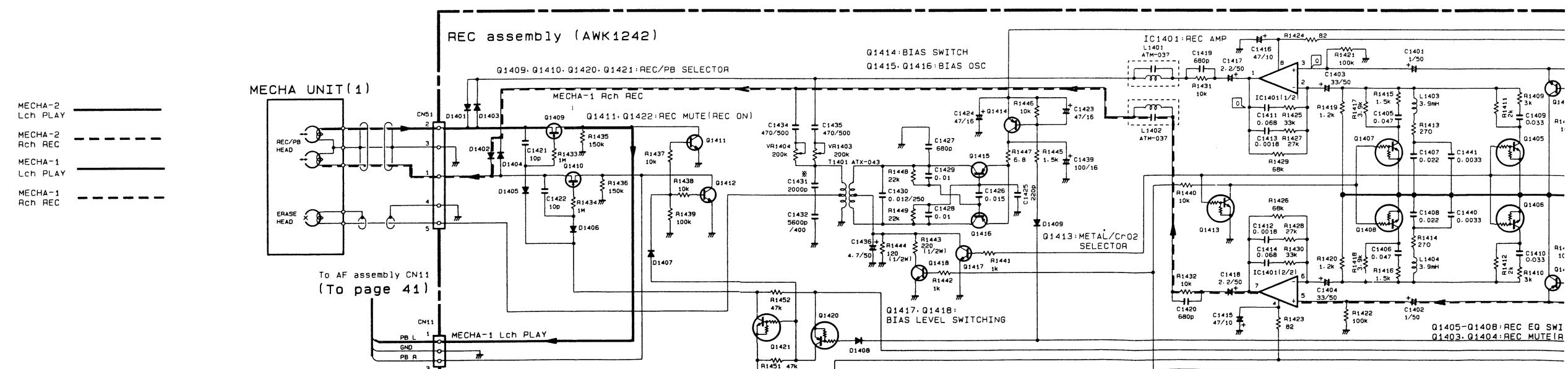
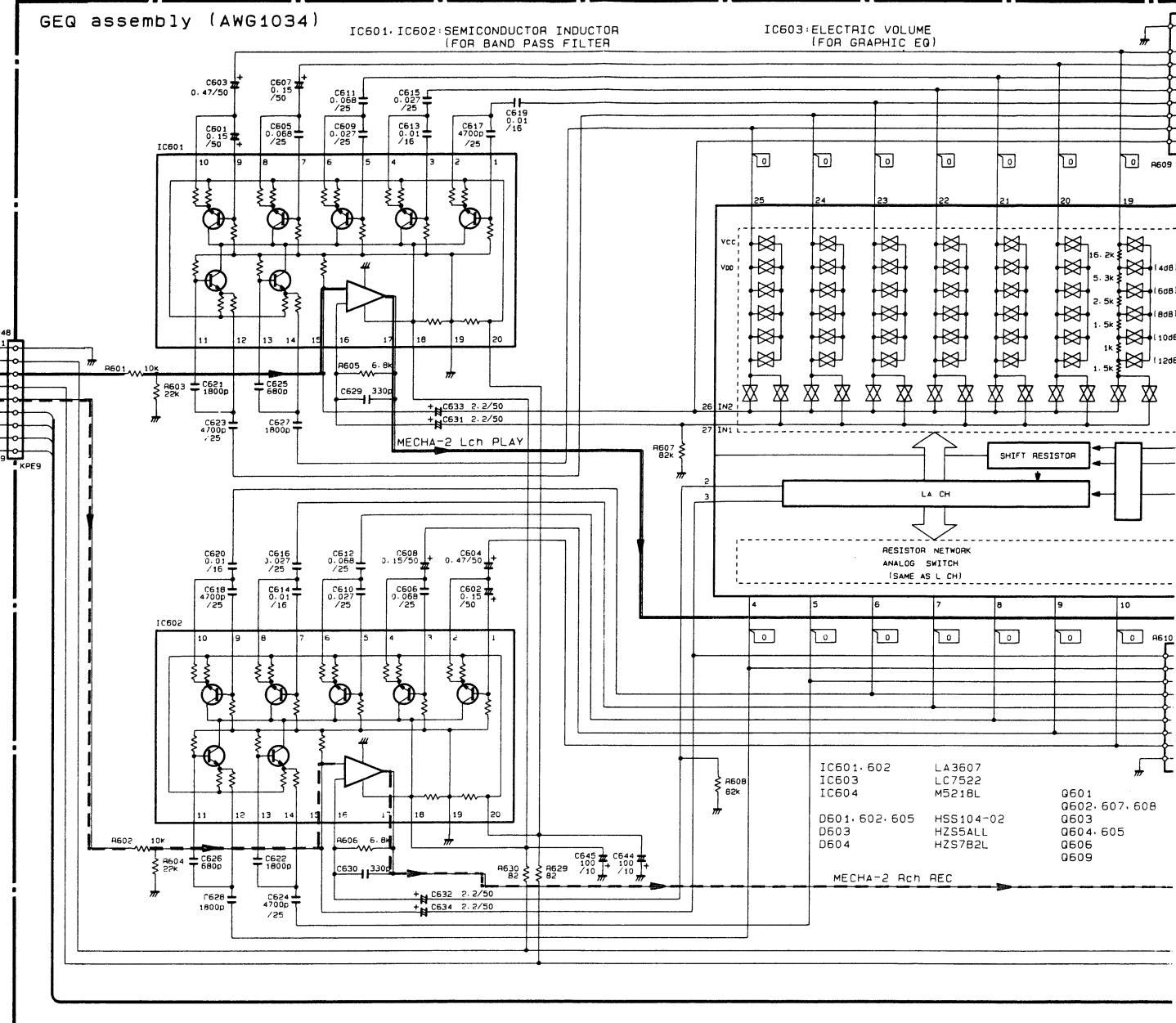
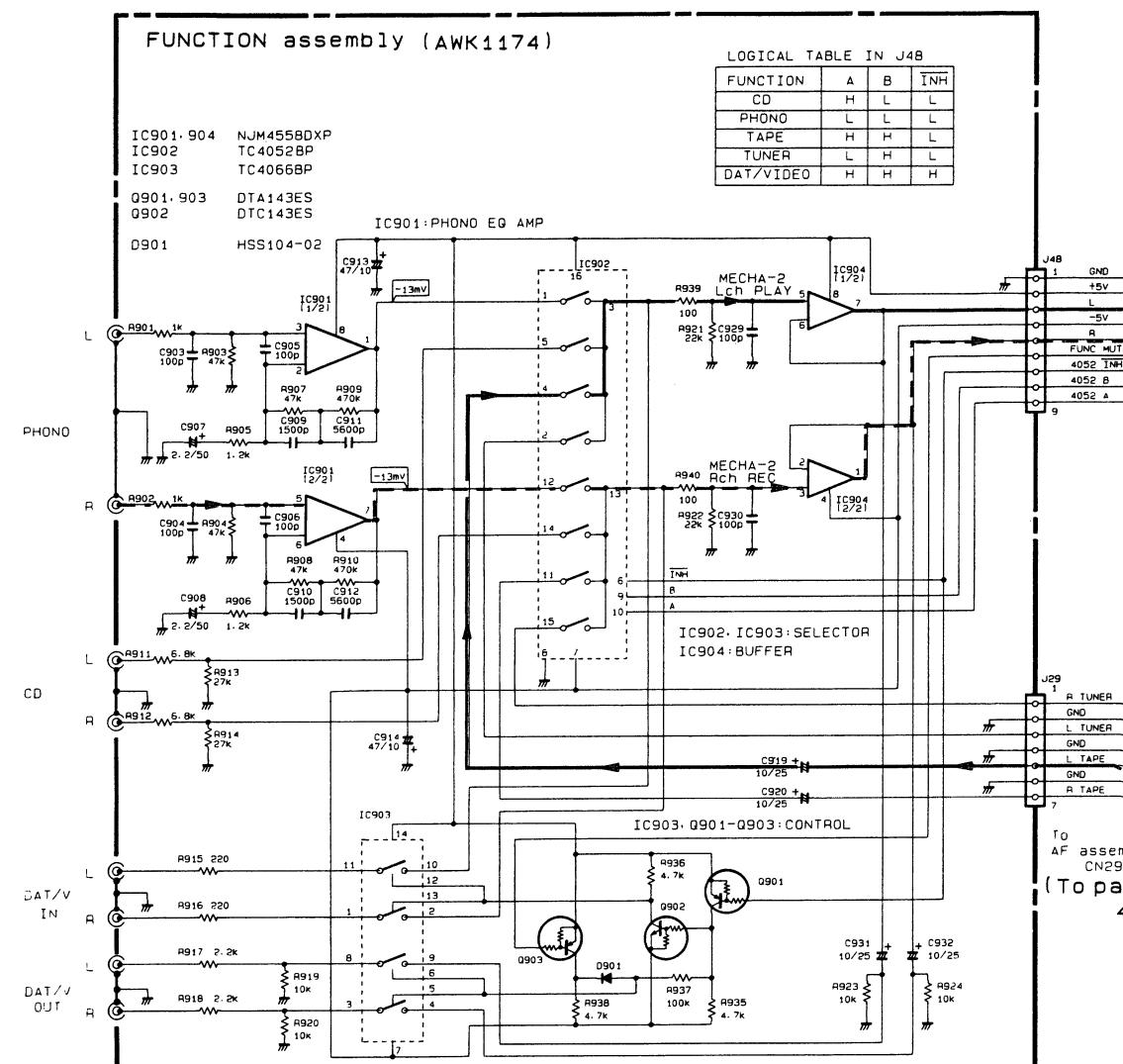


MECHA UNIT(2) assembly (AWY1054)





4.3 FUNCTION (AWK1174), GEQ (AWG1034) and REC (AWK1242) assembly

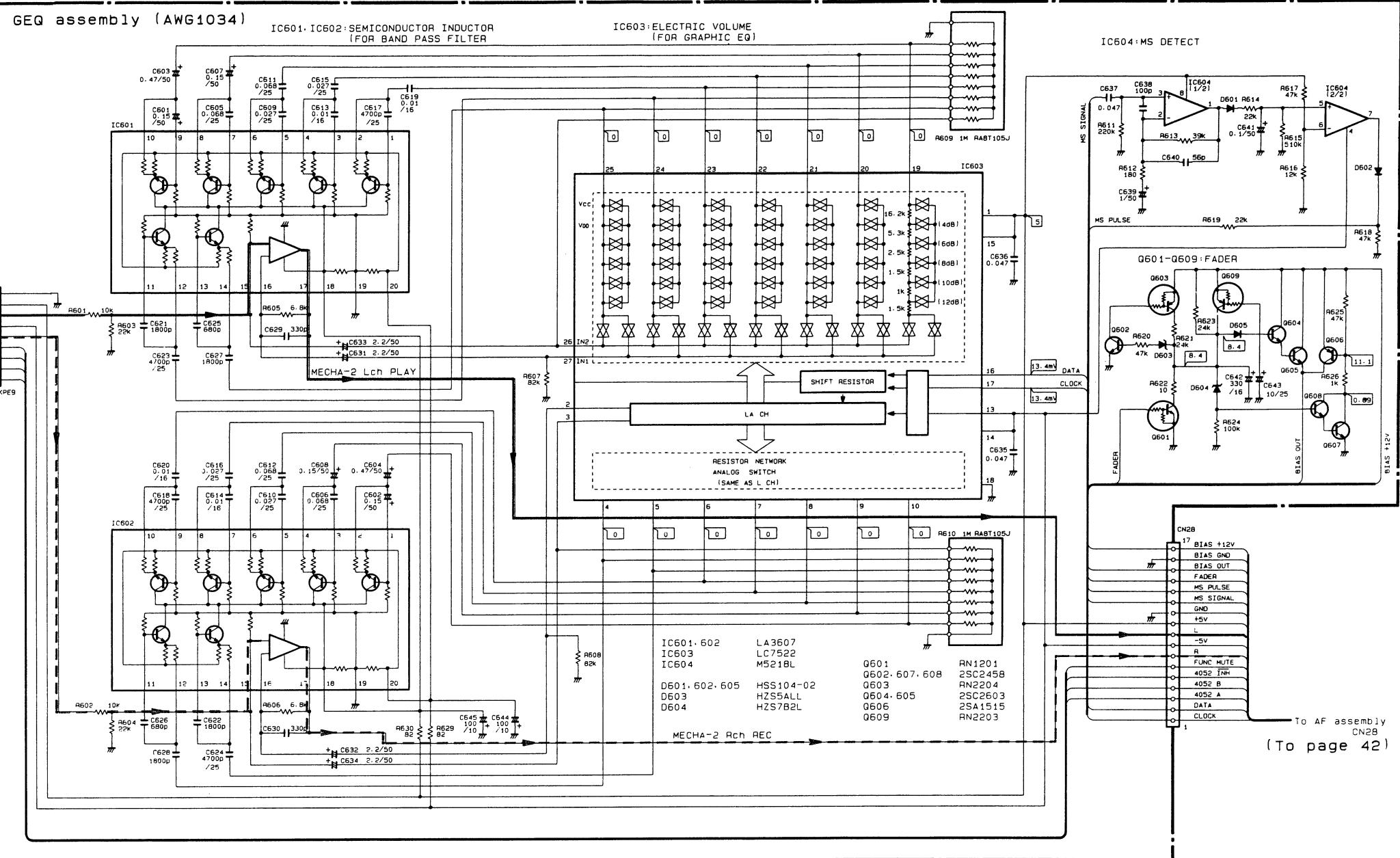


A

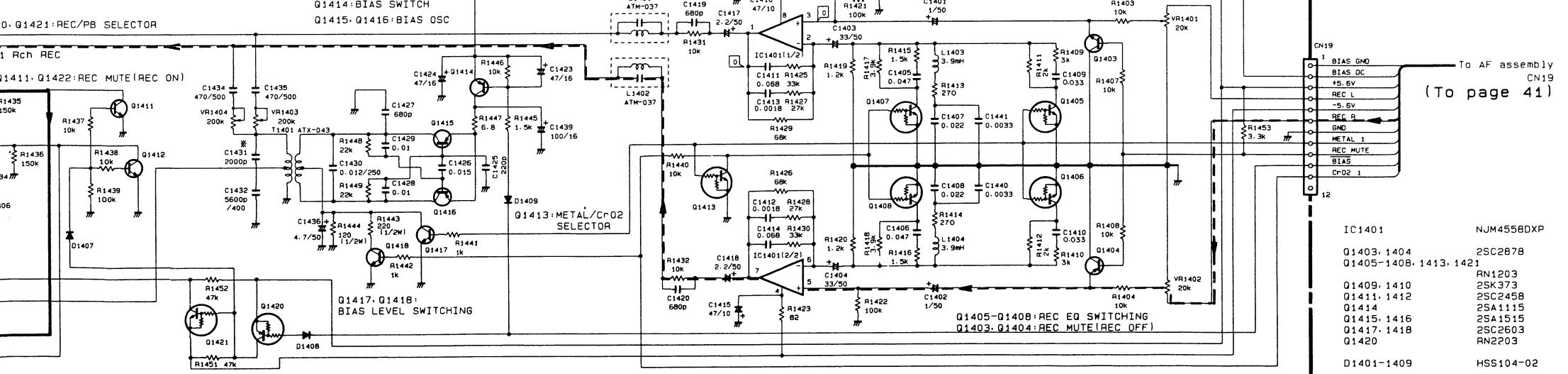
B

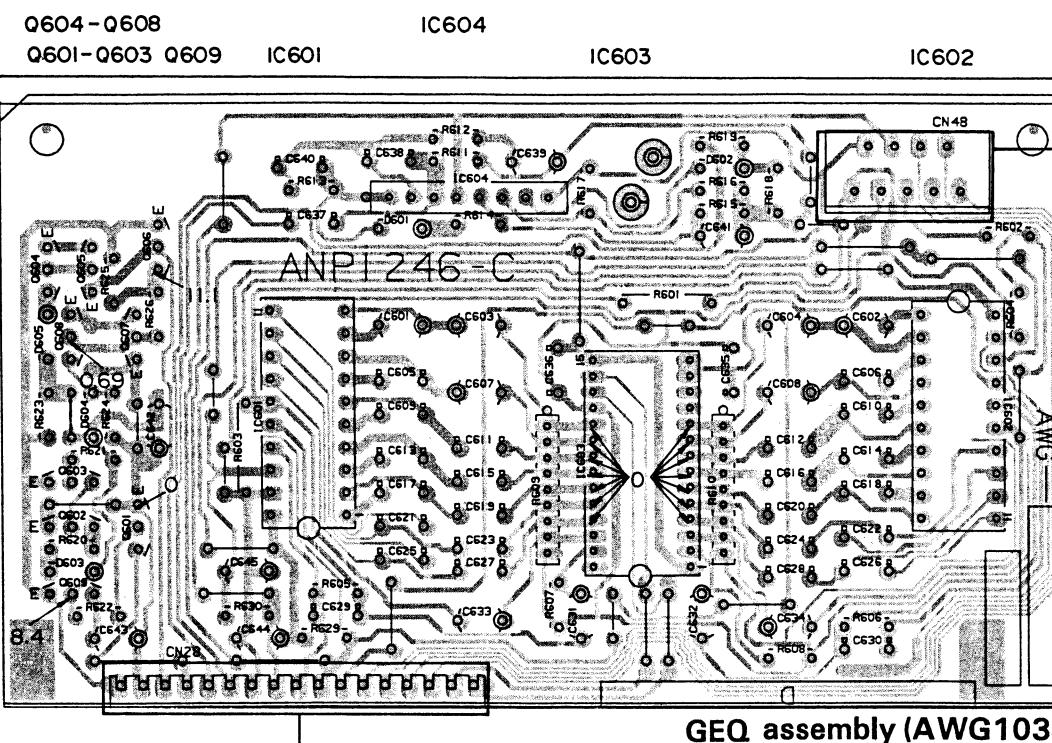
C

D

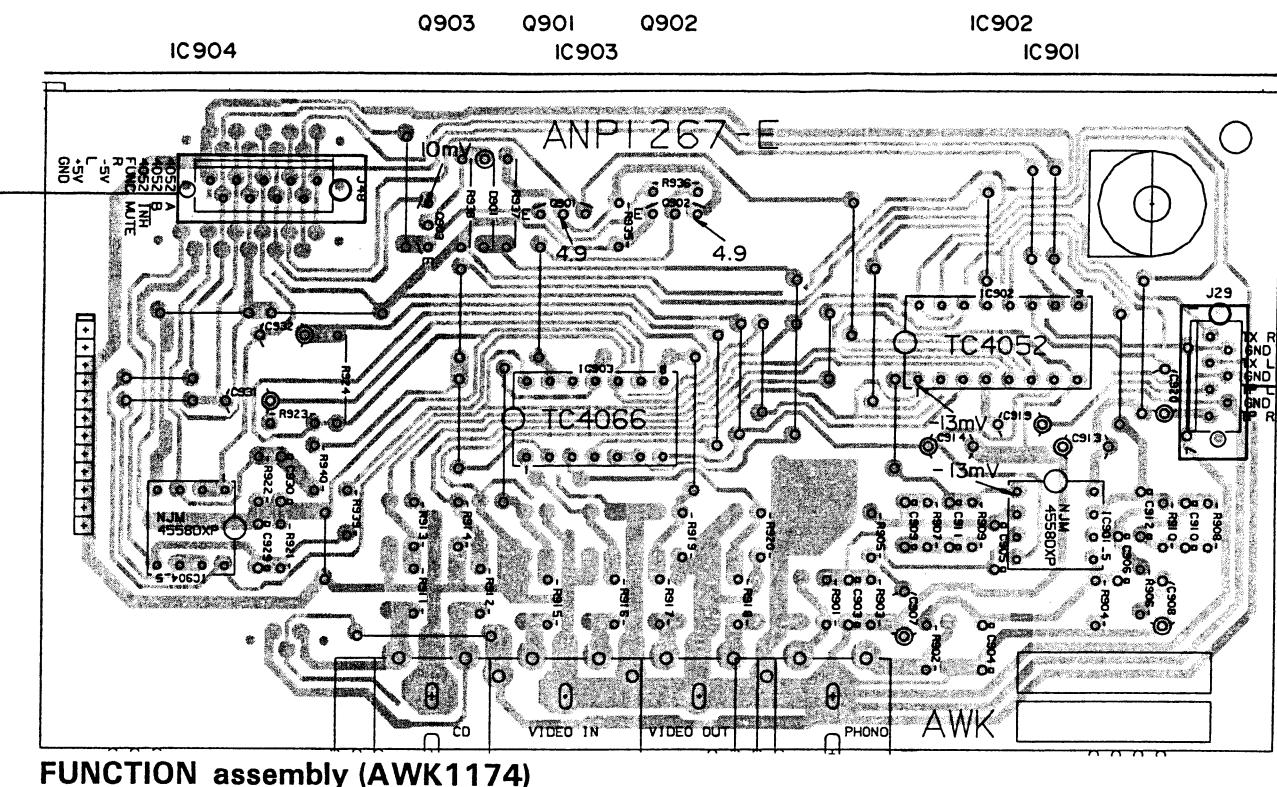


(AWK1242)

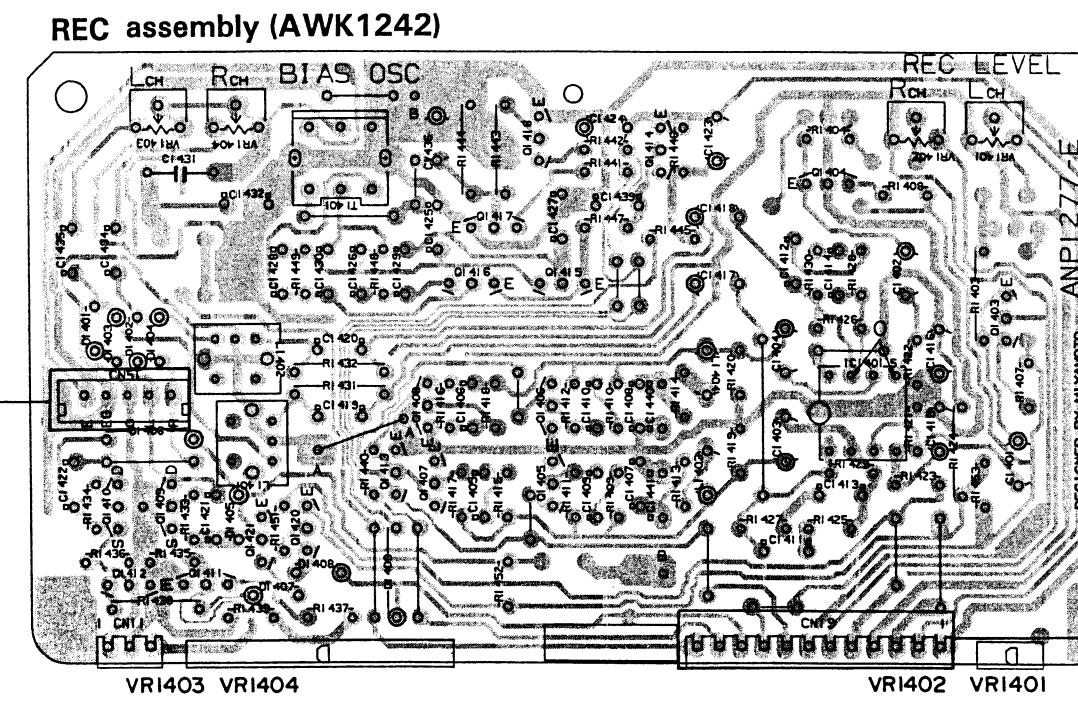
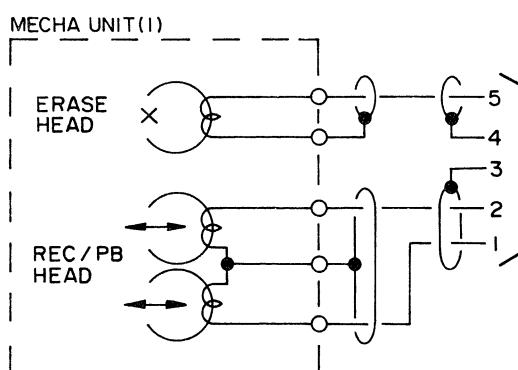




To AF assembly CN28
(To page 39)



To AF assembly CN29
(To page 39)



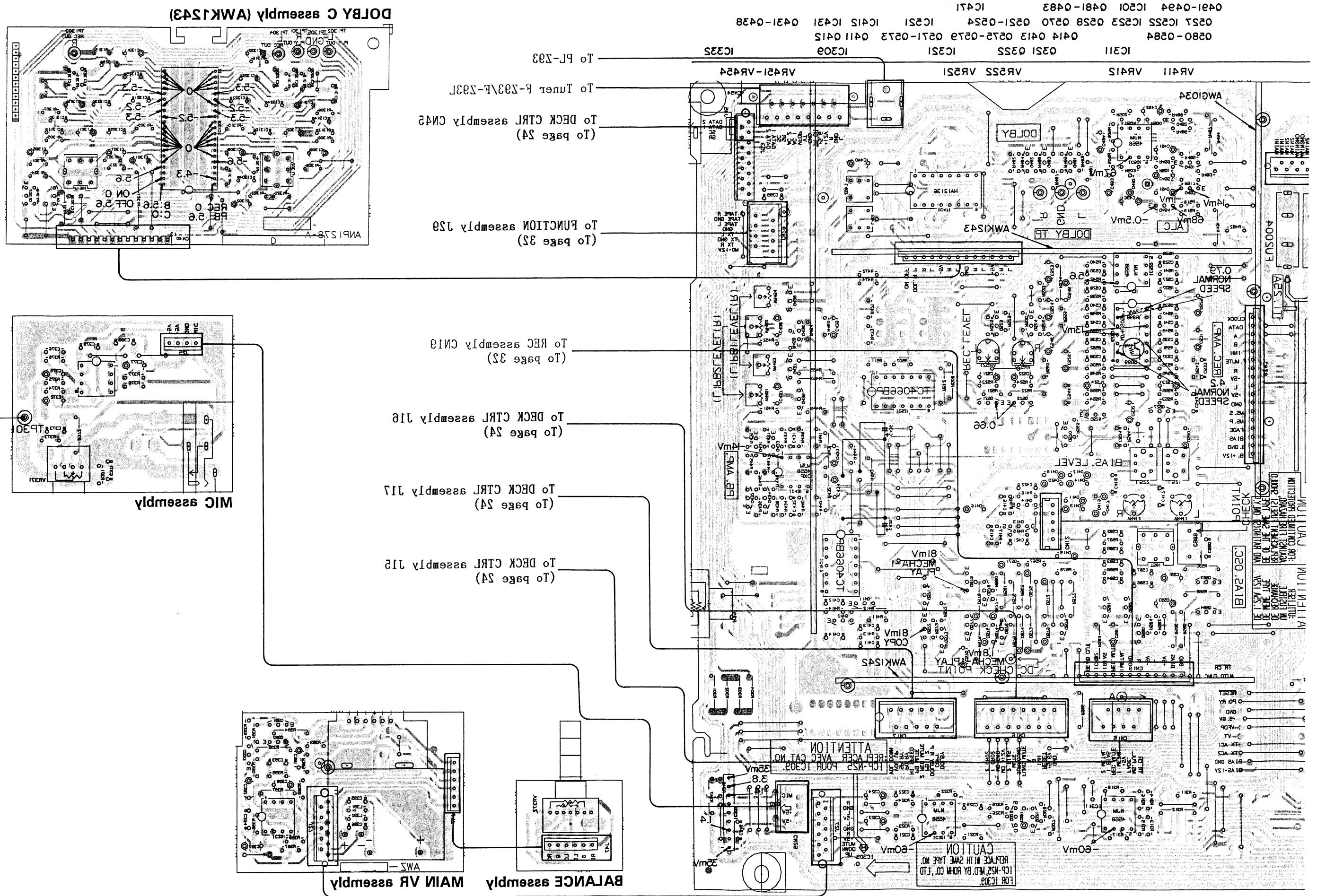
To AF assembly CN19
(To page 39)

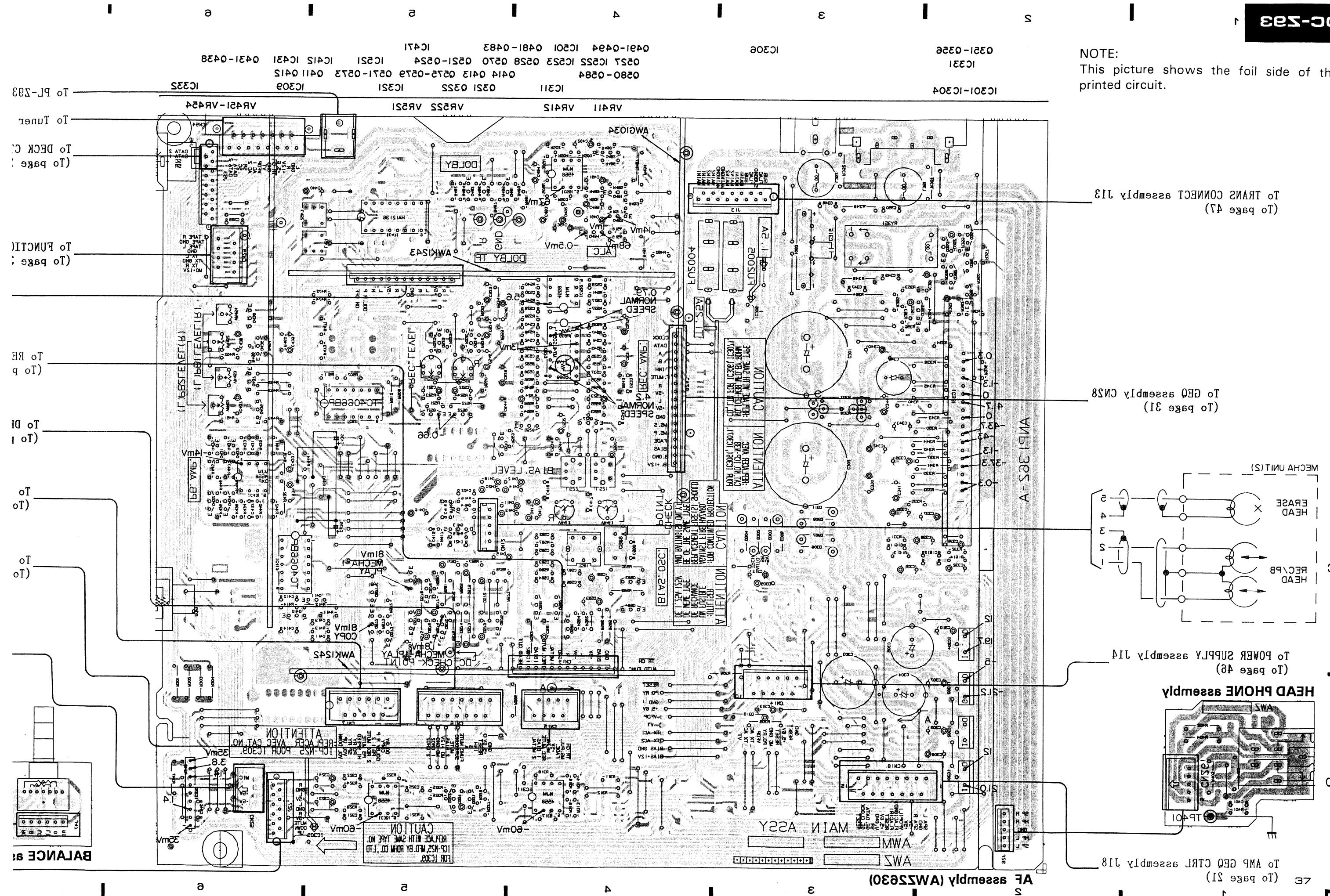
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
EO 0504	or	Transistor
EO 0215	or	Radiator type transistor
EO 0203	or	Diode
EO R237	or	Resistor
EO C513	or	Capacitor (Polarity)
EO C518	or	Capacitor (Non-polarity)

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

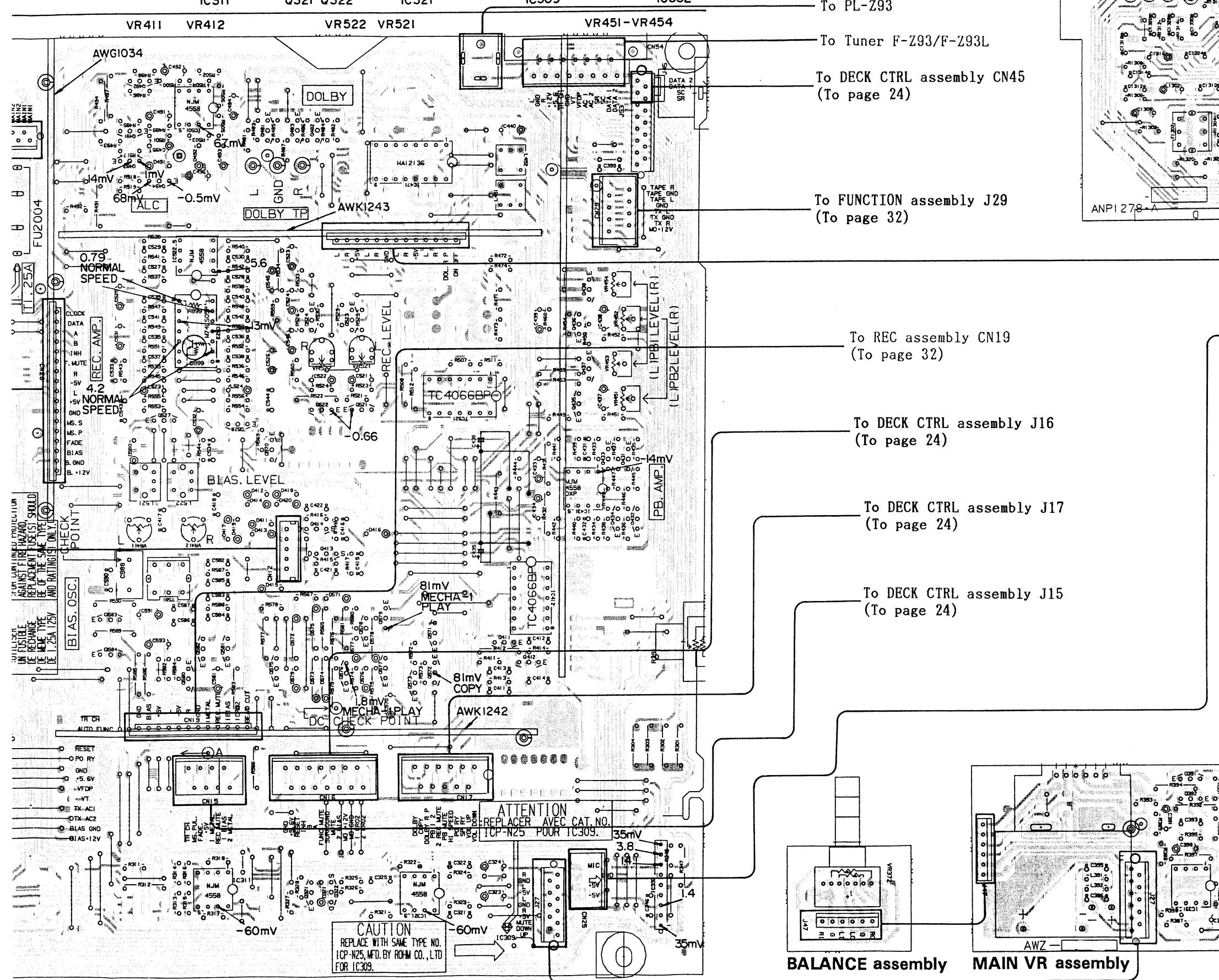
3. The capacitor terminal marked with (double circles) shows negative terminal.
4. The diode terminal marked with (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

1
2
3
4
5
66
7
8
9
10
1112
13
14
15
16
17

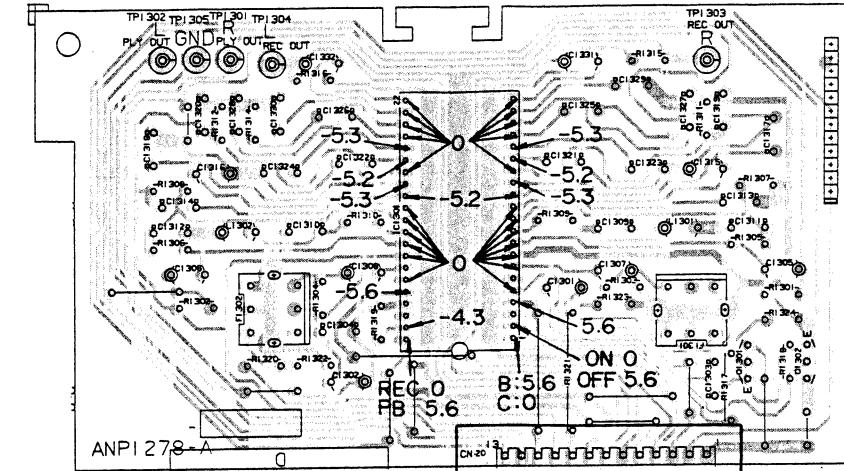




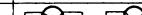
Q491-Q494 IC501 Q481-Q483 IC471
 Q527 IC522 IC523 Q528 Q570 Q521-Q524 IC521 IC412 IC431 Q431-Q438
 Q580-Q584 Q414 Q413 Q575-Q579 Q571-Q573 Q411 Q412
 IC311 Q321 Q322 IC321 IC309



DOLBY C assembly (AWK1243)

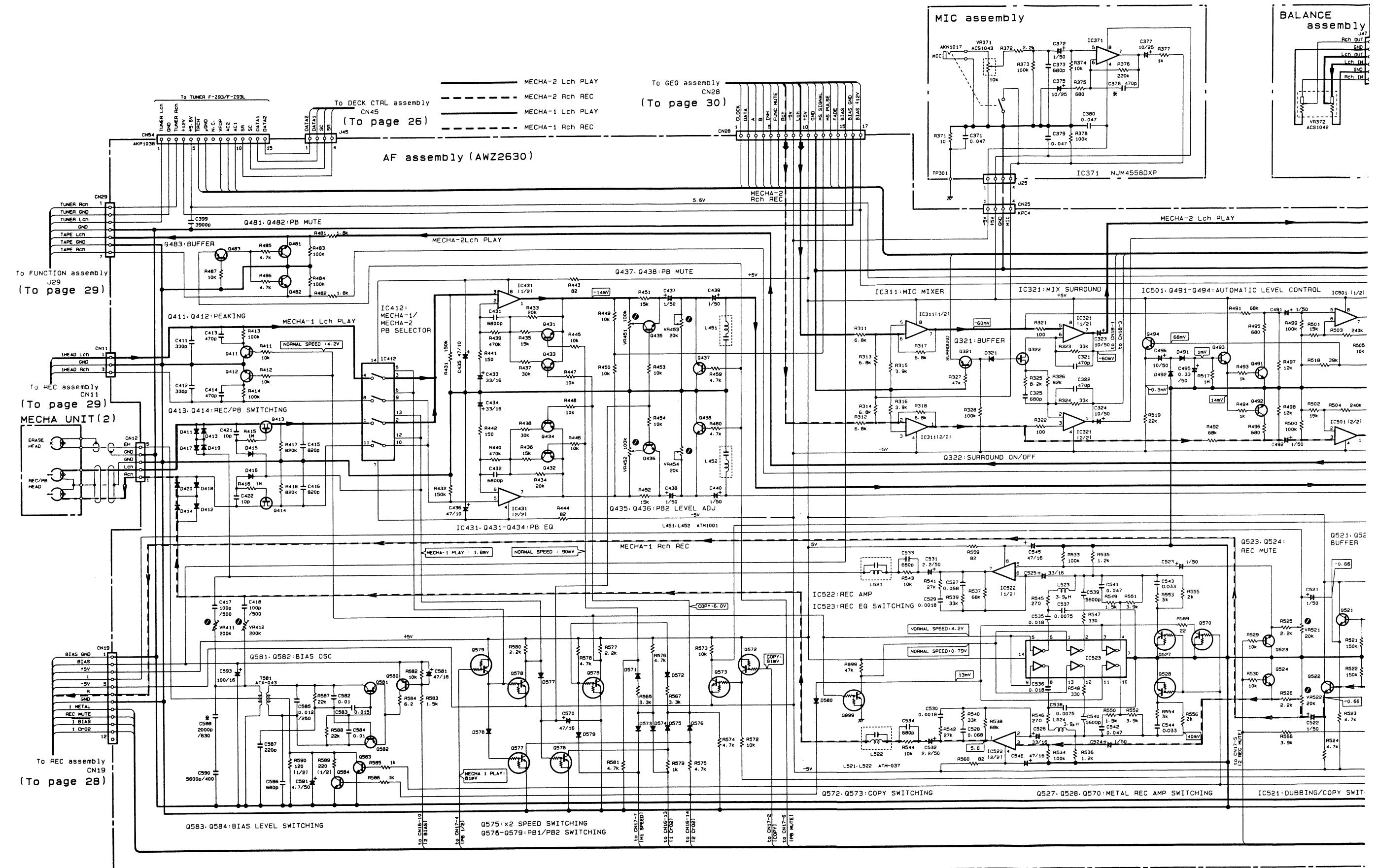


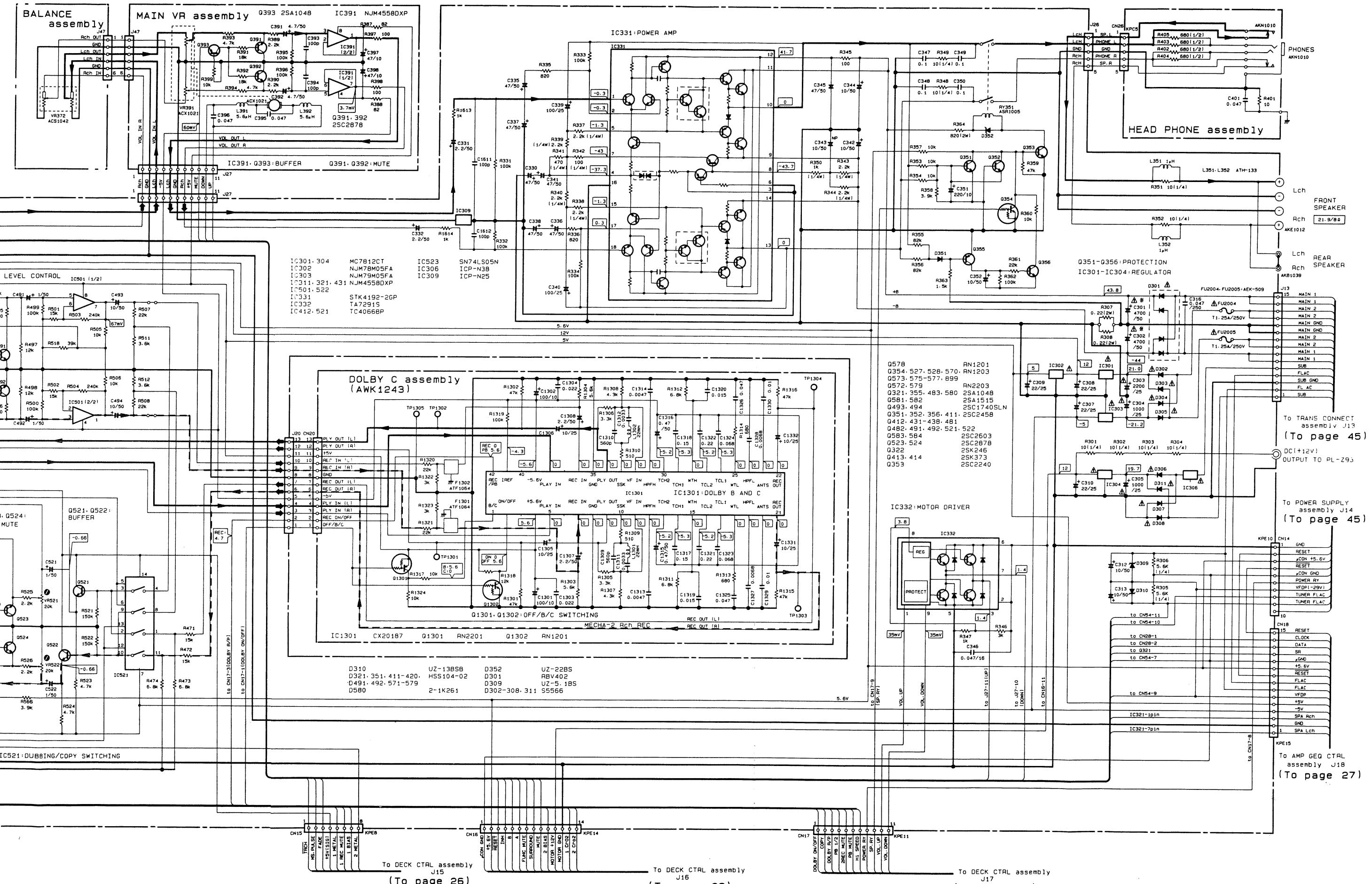
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

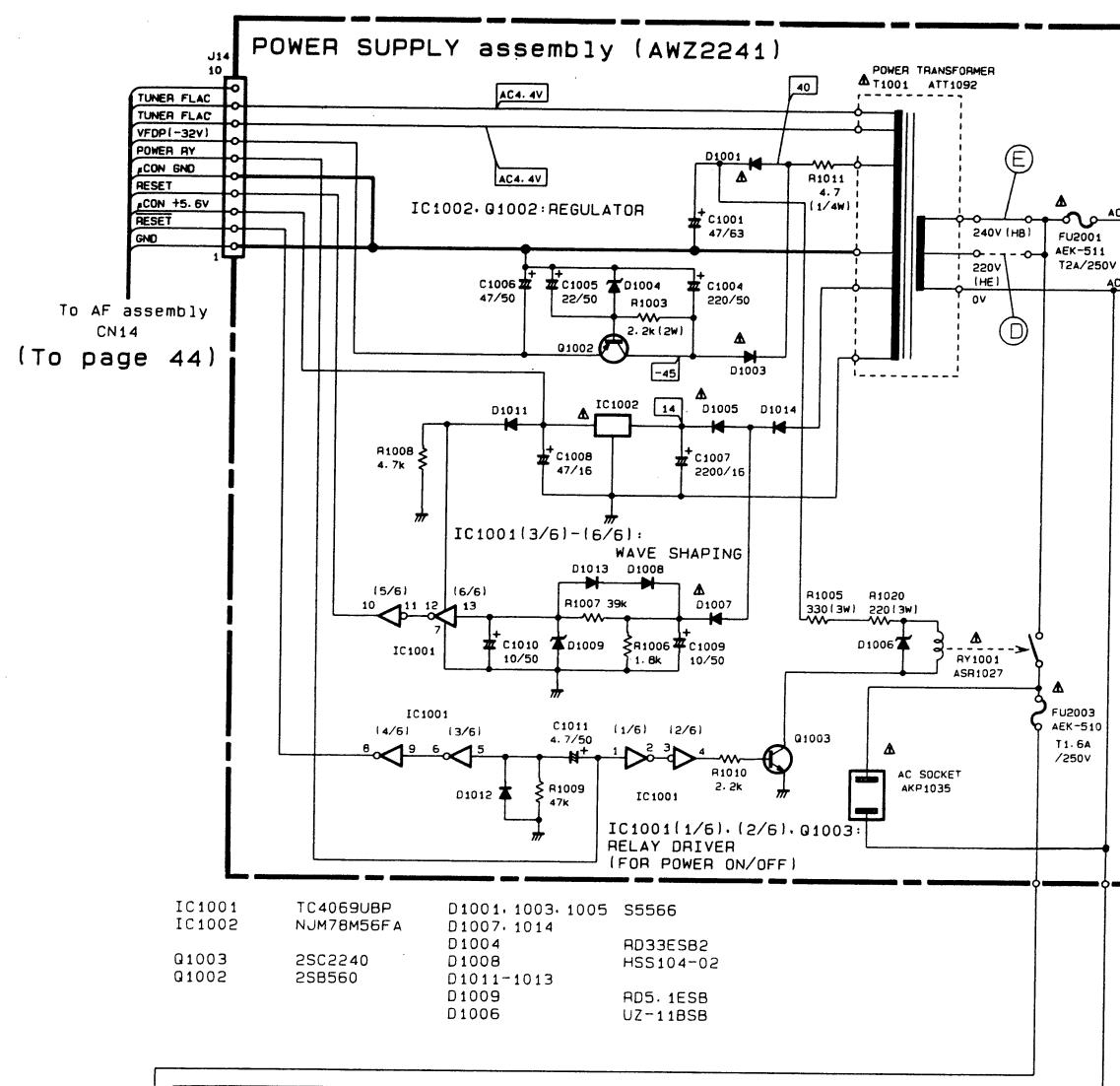
Others	
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with  shows negative terminal.
4. The diode terminal marked with shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

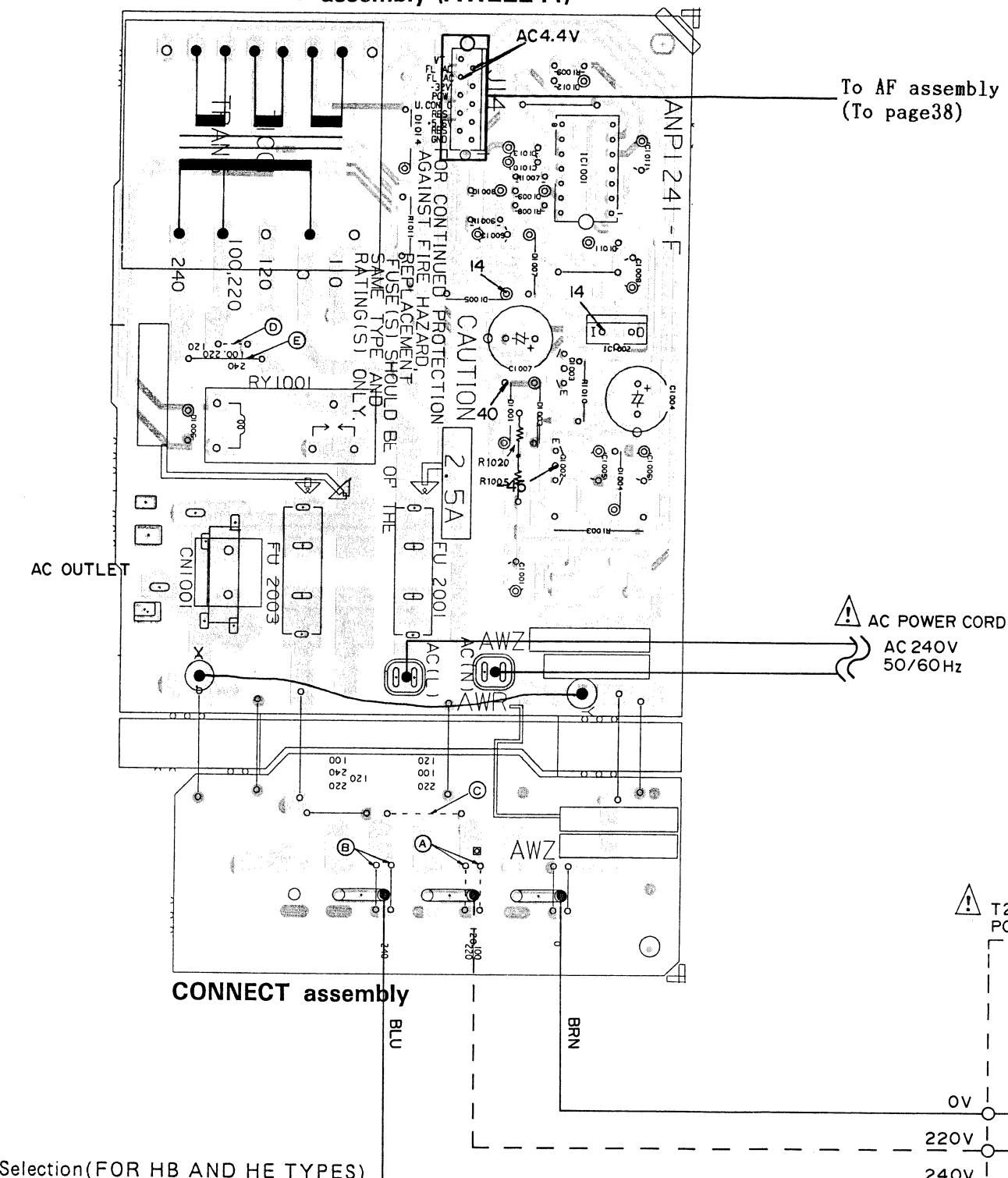




4.5 POWER SUPPLY (AWZ2241), CONNECT and TRANS CONNECT assembly

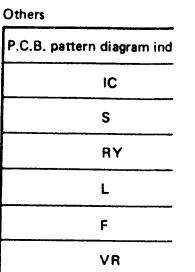
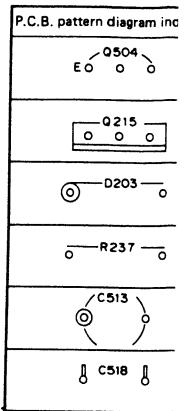


POWER SUPPLY assembly (AWZ2241)



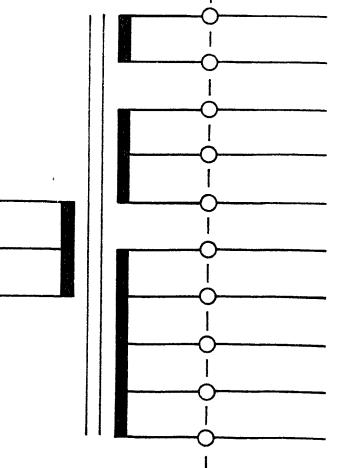
NOTE

1. This P.C.B connection
2. The parts which have with the corresponding



3. The capacitor terminal r
4. The diode terminal mar
5. The transistor terminal

T2001
POWER TRANSFORMER



To AF assembly CN13
(To page 38)

5. P.C.B's PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by “◎” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ▲ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56 × 10 ¹	561.....	RD1/4PS □ □ □ J
47kΩ	47 × 10 ³	473.....	RD1/4PS □ □ □ J
0.5Ω	0R5.....		RN2H □ □ □ K
1Ω	010.....		RS1P □ □ □ K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	562 × 10 ¹	5621.....	RN1/4SR □ □ □ F
--------	-----------------------	-----------	-----------------

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
SPEANA ASSEMBLY (AWG 1025)					
SEMICONDUCTORS					
IC721-725	OP-AMP IC	NJM4558DXP	C903-906	CERAMIC CAPACITOR CCCSL101J50	
IC726	OP-AMP IC	TC4051BP	C907,908	ELECTR. CAPACITOR CEAS2R2M50	
Q721-729	TRANSISTOR	RN1201	C909,910	CERAMIC CAPACITOR CKCYB152K50	
Q730	TRANSISTOR	2SA1048	C911,912	CERAMIC CAPACITOR CKCYB562K50	
Q731-733	TRANSISTOR	2SC2458	C913,914	ELECTR. CAPACITOR CEAS470M10	
D721-728	DIODE	HSS104-02	C919,920	ELECTR. CAPACITOR CEAS100M25	
CAPACITORS					
C721,722	CERAMIC CAPACITOR CKDYX823M16		C929,930	CERAMIC CAPACITOR CCCSL101J50	
C723,724	CERAMIC CAPACITOR CKCYX333M16		C931,932	ELECTR. CAPACITOR CEAS100M25	
C725,726	CERAMIC CAPACITOR CKCYX123M16		RESISTORS		
C727,728	CERAMIC CAPACITOR CKCYB472K50		ALL RESISTORS	RD1/8PM □□□J	
C729,730	CERAMIC CAPACITOR CKCYB182K50		OTHERS		
C731,732	CERAMIC CAPACITOR CKCYB821K50		AF ASSEMBLY (AWZ2630)		
C733,734	CERAMIC CAPACITOR CKCYB331K50		SEMICONDUCTORS		
C735-741	CERAMIC CAPACITOR CKDYF473Z50		IC301	MC7812CT	
RESISTORS			IC302	REGULATOR IC	NJM78M05FA
ALL RESISTORS			IC303	REGULATOR IC	NJM79M05FA
RD1/8PM □□□J			IC304	MC7812CT	
OTHER			IC306	IC PROTECTOR	ICP-N38
CN30	KPE13		IC309	IC PROTECTOR	ICP-N25
FUNCTION ASSEMBLY (AWK 1174)			IC311,321	OP-AMP IC	NJM4558DXP
SEMICONDUCTORS			IC331	AUDIO IC	STK4192-2GP
IC901	OP-AMP IC	NJM4558DXP	IC332	NECHA UNICE IC	TA7291S
IC902	LOGIC IC	TC4052BP	IC412	LOGIC IC	TC4066BP
IC903	LOGIC IC	TC4066BP	IC431	OP-AMP IC	NJM4558DXP
IC904	OP-AMP IC	NJM4558DXP	IC501	OP-AMP IC	NJM4558DXP
Q901	TRANSISTOR	DTA143ES	IC521	LOGIC IC	TC4066BP
Q902	TRANSISTOR	DTC143ES	IC522	OP-AMP IC	NJM4558DXP
Q903	TRANSISTOR	DTA143ES	IC523	LOGIC IC	SN74LS05N
D901	DIODE	HSS104-02	Q321	TRANSISTOR	2SA1048
			Q322	N-FET	2SK246
			Q351,352	TRANSISTOR	2SC2458

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
Q353		TRANSISTOR	2SC2240	C304,305		ELECTR. CAPACITOR	CEAS102M25
Q354		TRANSISTOR	RN1203				
Q355		TRANSISTOR	2SA1048	C307-310		ELECTR. CAPACITOR	CEAS220M25
Q356		TRANSISTOR	2SC2458	C312,313		ELECTR. CAPACITOR	CEAS100M50
Q411,412		TRANSISTOR	2SC2458	C316		MYLOR FILM CAPACITOR	CQMA473K250
Q413,414		N-FET	2SK373	C321,322		PL. STYRENE	CQSA471J50
Q431-438		TRANSISTOR	2SC2458				
Q481,482		TRANSISTOR	2SC2458	C323,324		ELECTR. CAPACITOR	CEAS100M50
Q483		TRANSISTOR	2SA1048	C325		CERAMIC CAPACITOR	CKMYB681K50
Q491,492		TRANSISTOR	2SC2458	C330		ELECTR. CAPACITOR	CEAS470M50
Q493,494		TRANSISTOR	2SC1740SLN	C331		ELECTR. CAPACITOR	CEAS2R2M50
Q521,522		TRANSISTOR	2SC2458	C332		ELECTROLYTIC CAPACITOR	CEHAQ2R2M50
Q523,524		TRANSISTOR	2SC2878	C335		ELECTR. CAPACITOR	CEAS470M50
Q527,528		TRANSISTOR	RN1203	C336		ELECTROLYTIC CAPACITOR	CEHAQ470M50
Q570,899		TRANSISTOR	RN1203	C337,338		ELECTR. CAPACITOR	CEAS470M50
Q572		TRANSISTOR	RN2203	C339,340		ELECTR. CAPACITOR	CEAS101M25
Q573,577		TRANSISTOR	RN1203	C341		ELECTR. CAPACITOR	CEAS470M50
Q575,576		TRANSISTOR	RN1203	C342		ELECTR. CAPACITOR	CEAS100M50
Q578		TRANSISTOR	RN1201	C343		ELECTR. CAPACITOR	CEANP100M50
Q579		TRANSISTOR	RN2203	C344		ELECTR. CAPACITOR	CEAS100M50
Q580		TRANSISTOR	2SA1048	C345		ELECTROLYTIC CAPACITOR	CEANP470M50
Q581,582		TRANSISTOR	2SA1515	C346		CERAMIC CAPACITOR	CKDYX473M16
Q583,584		TRANSISTOR	2SC2603				
D301		DIODE	RBV402	C347-350		MYLOR FILM CAPACITOR	CQMA104K50
D302-308		DIODE	S5566	C351		ELECTR. CAPACITOR	CEAS221M10
D309		ZENER DIODE	UZ-5.1BS	C352		ELECTR. CAPACITOR	CEAS100M50
D310		ZENER DIODE	UZ-13BSB	C399		CERAMIC CAPACITOR	CKDYB392K50
D311		DIODE	S5566	C411,412		CERAMIC CAPACITOR	CKMYB331K50
D321		DIODE	HSS104-02				
D351		DIODE	HSS104-02	C413,414		CERAMIC CAPACITOR	CKMYB471K50
D352		ZENER DIODE	UZ-22BS	C415,416		CERAMIC CAPACITOR	CKMYB821K50
D411-419		DIODE	HSS104-02	C417,418		CERAMIC CAPACITOR	CCCSL101K500
D420		DIODE	HSS104-02	C421,422		CERAMIC CAPACITOR	CCMSL100D50
D491,492		DIODE	HSS104-02	C431,432		MYLOR FILM CAPACITOR	CQMA682J50
D571-579		DIODE	HSS104-02				
D580		GERMANIUM DIODE	2-1K261	C433,434		ELECTR. CAPACITOR	CEAS330M16
COILS & TRANSFORMER				C435,436		ELECTR. CAPACITOR	CEAS470M10
L351,352		COIL	ATH-133	C437-440		ELECTR. CAPACITOR	CEAS010M50
L451,452		COIL	ATM1001	C491,492		ELECTR. CAPACITOR	CEAS010M50
L521,522		COIL	ATM-037	C493,494		ELECTR. CAPACITOR	CEAS100M50
L523,524		INDUCTOR	LTA392J				
T581		OSC TRANSFORMER	ATX-043	C495		ELECTR. CAPACITOR	CEASR33M50
RELAY				C496		ELECTR. CAPACITOR	CEAS100M50
RY351		RELAY	ASR1005	C521-524		ELECTR. CAPACITOR	CEAS010M50
CAPACITORS				C525,526		ELECTR. CAPACITOR	CEAS330M16
C1611,1612		CERAMIC CAPACITOR	CCCSL101J50	C527,528		AUDIO FILM CAPACITOR	CFTXA683J50
C301,302		ELECTROLYTIC CAPACITOR	ACH-252 (4700 μ /50V)				
C303		ELECTR. CAPACITOR	CEAS222M25	C529,530		CERAMIC CAPACITOR	CKCYB182K50
				C531,532		ELECTR. CAPACITOR	CEAS2R2M50
				C533,534		CERAMIC CAPACITOR	CKMYB681K50
				C535,536		MYLOR FILM CAPACITOR	CQMA183J50

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
C537,538		MYLOR FILM CAPACITOR	CQMA752J50			SPEAKER TERMINAL	AKE1012
C539,540		CERAMIC CAPACITOR	CKCYB562K50		4-P JACK		AKN-203
C541,542		MYLOR FILM CAPACITOR	CQMA473J50	CN54		SOCKET 15-P GEQ ASSEMBLY	AKP1038
C543,544		MYLOR FILM CAPACITOR	CQMA333J50			REC ASSEMBLY	AWG1034
C545,564		ELECTR. CAPACITOR	CEAS470M16			DOLBY C ASSEMBLY	AWK1242
C570		ELECTR. CAPACITOR	CEAS470M16	CN14		JUMPER CONNECTOR 10-P	KPE10P
C581		ELECTR. CAPACITOR	CEAS470M16	CN15		JUMPER CONNECTOR 8-P	KPE8
C582		CERAMIC CAPACITOR	CKCYB103K50	CN16		JUMPER CONNECTOR 14-P	KPE14
C583		MYLOR FILM CAPACITOR	CQMA153K50	CN17		JUMPER CONNECTOR 11-P	KPE11
C584		CERAMIC CAPACITOR	CKCYB103K50	CN18		JUMPER CONNECTOR 15-P	KPE15
C585		MYLOR FILM CAPACITOR	CQMA123K250	CN25		JUMPER CONNECTOR 4-P	KPC4
				CN29		JUMPER CONNECTOR 7-P	KPE7
C586		CERAMIC CAPACITOR	CKMYB681K50			GEQ ASSEMBLY (AWG1034)	
C587		CERAMIC CAPACITOR	CKMYB221K50			Note : This GEQ assembly (AWG1034) is a part of	
C588		CQPA (2000P/630V)	ACE1020			AF assembly (AWZ2630)	
C590		MYLOR FILM CAPACITOR	CQMA562K400			SEMICONDUCTORS	
C591		ELECTR. CAPACITOR	CEAS4R7M50	IC601,602	GEQ IC		LA3607
C593		ELECTR. CAPACITOR	CEAS101M16	IC603	GEQ EVR IC		LC7522
				IC604	OP-AMP IC		M5218L
RESISTORS							
VR411,412	VR		VRTM6V204	Q601	TRANSISTOR		RN1201
VR451,425	VR		VRTM6H104	Q602	TRANSISTOR		2SC2458
VR453,454	VR		VRTM6H203	Q603	TRANSISTOR		RN2204
VR521,522VR	(22K)		ACP1026	Q604,605	TRANSISTOR		2SC2603
R301-306	CARBONFILM RESISTOR		RD1/4PM□□□J	Q606	TRANSISTOR		2SA1515
R307,308	METAL OXIDE RESISTOR		RS2LMFR22J	Q607,608	TRANSISTOR		2SC2458
R337-340	CARBONFILM RESISTOR		RD1/4PM222J	Q609	TRANSISTOR		RN2203
R341	FUSLIBLE RESISTOR	RFA1/4PL471J		D601,602	DIODE		HSS104-02
R342	CARBONFILM RESISTOR	RD1/4PMFL101J		D603	ZENER	DIODE	HZS5ALL
				D604	ZENER	DIODE	HZS7B2L
				D605	DIODE		HSS104-02
CAPACITORS							
R343,344	CARBO NFILM RESISTOR	RD1/4PM222J		C601,602	ELECTROLYTIC CAPACITOR		CEASR15M50
R345	CARBONFILM RESISTOR	RD1/4PMFL101J		C603,604	ELECTR. CAPACITOR		CEASR47M50
R348,349	CARBON FILM RESISTOR	RD1/4PMF100J		C605,606	CERAMIC CAPACITOR		CKCYX683M25
R350-352	CARBON FILM RESISTOR	RD1/4PMFL□□□J		C607,608	ELECTROLYTIC CAPACIT		CEASR15M50
R364	METAL OXIDE RESISTOR	RS2LMF821J		C609,610	CERAMIC CAPACITOR		CKCYX273M25
R589,590	CARBON FILM RESISTOR	RD1/2PM□□□J		C611,612	CERAMIC CAPACITOR		CKCYX683M25
	OTHER RESISTOR	RD1/8PM□□□J		C613,614	CERAMIC CAPACITOR		CGMYX103M16
				C615,616	CERAMIC CAPACITOR		CKCYX273M25
				C617,618	CERAMIC CAPACITOR		CGMYX472M25
				C619,620	CERAMIC CAPACITOR		CGMYX103M16
				C621,622	CERAMIC CAPACITOR		CGMYB182M50
				C623,624	CERAMIC CAPACITOR		CGMYX472M25
				C625,626	CERAMIC CAPACITOR		CKMYB681K50
				C627,628	CERAMIC CAPACITOR		CGMYB182M50
OTHERS							
	PHONO JACK 2-P	AKB1039					

Mark No.	Description	Parts No.
C629,630	CERAMIC CAPACITOR CKCYB331K50	
C631,632	ELECTR. CAPACITOR CEAS2R2M50	
C633,634	ELECTR. CAPACITOR CEAS2R2M50	
C635-637	CERAMIC CAPACITOR CKCYF473Z50	
C638	CERAMIC CAPACITOR CCCSL101J50	
C639	ELECTR. CAPACITOR CEAS010M50	
C640	CERAMIC CAPACITOR CCCSL560J50	
C641	ELECTR. CAPACITOR CEAS0R1M50	
C642	ELECTR. CAPACITOR CEAS331M16	
C643	ELECTR. CAPACITOR CEAS100M25	
C644,645	ELECTR. CAPACITOR CEAS101M10	

RESISTORS

R609,610	RESISTOR ARRAY (1M)	RA8T105J
	OTHER RESISTORS	RD1/8PM□□□J

OTHER

CN48	JAMPER CONNECTOR KPE99 9P	
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REC ASSEMBLY (AWK1242)

Note : This REC assembly (AWK1242) is a part of AF assembly (AWZ2630)

SEMICONDUCTORS

IC1401		NJM4558DXP
Q1403,1404	TRANSISTOR	2SC2878
Q1405-1408	TRANSISTOR	RN1203
Q1409,1410	N-FET	2SK373
Q1411,1412	TRANSISTOR	2SC2458
Q1413	TRANSISTOR	RN1203
Q1414	TRANSISTOR	2SA1115
Q1415,1416	TRANSISTOR	2SA1515
Q1417,1418	TRANSISTOR	2SC2603
Q1420	TRANSISTOR	RN2203
Q1421	TRANSISTOR	RN1203

D1401-1409	DIODE	HSS104-02
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COILS & TRANSFORMER

L1401,1402	COIL	ATM-037
L1403,1404	INDUCTOR	LTA392J
T1401	OSC TRANSFORMER	ATX-043

CAPACITORS

C1401,1402	ELECTR,CAPACITOR	CEAS010M50
C1403,1404	ELECTR,CAPACITOR	CEAS330M50
C1405,1406	MYLOR FILM CAPACITOR	CQMA473J50
C1407,1408	MYLOR FILM CAPACITOR	CQMA223J50

C1409,1410	MYLOR FILM CAPACITOR	CQMA333J50
C1411	MYLOR FILM CAPACITOR	CQMA683J50

C1412,1413	CERAMIC CAPACITOR CKCYB182K50	
C1414	MYLOR FILM CAPACITOR	CQMA683J50
C1415,1416	ELECTR. CAPACITOR CEAS470M10	
C1417,1418	ELECTR. CAPACITOR CEAS2R2M50	
C1419,1420	CERAMIC CAPACITOR CKMYB681K50	

C1421,1422	CERAMIC CAPACITOR CCMSL100D50	
C1423,1424	ELECTR. CAPACITOR CEAS470M16	
C1425	CERAMIC CAPACITOR CCCSL221J50	
C1426	MYLOR FILM CAPACITOR	CQMA153J50

C1427	CERAMIC CAPACITOR CKMYB681K50	
C1428,1429	CERAMIC CAPACITOR CKCYB103K50	
C1430	MYLOR FILM CAPACITOR	CQMA123K250
C1431	CQPA (2000P/630V)	ACE1020
C1432	MYLOR FILM CAPACITOR	CQMA562K400

C1434,1435	CERAMIC CAPACITOR CKCYB471K500	
C1436	ELECTR. CAPACITOR CEAS4R7M50	
C1439	ELECTR. CAPACITOR CEAS101M16	
C1440,1441	MYLOR FILM CAPACITOR	CQMA332J50

RESISTORS

VR1401,1402	VR	VRTM6H203
VR1403,1404	VR	VRTM6H204
R1443,1444		RD1/2PM□□□J
OTHER RESISTORS		RD1/8PM□□□J

DOLBY-C ASSEMBLY (AWK1243)

Note : This DOLBY-C assembly (AWK1243) is a part of AF assembly (AWZ2630)

SEMICONDUCTORS

IC1301		CX20187
Q1301	TRANSISTOR	RN2201
Q1302	TRANSISTOR	RN1201

COILS

F1301,1302		ATF1064
L1301,1302	INDUCTOR	LTA223J

CAPACITORS

C1301,1302	ELECTR. CAPACITOR	CEAS101M10
C1303,1304		CFTXA223J50
C1305,1306	ELECTR. CAPACITOR	CEAS100M25
C1307,1308	ELECTR. CAPACITOR	CEAS2R2M50

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.	Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
C1309,1310	MYLOR FILM CAPACITOR	CQMA561J50		RESISTORS			DECK CENTER ASSEMBLY (AWZ2644)			OTHERS	
C1311,1312	MYLOR FILM CAPACITOR	CQMA332J50	R401	CARBONFILM RESISTOR OTHER	RD1/8PM100J RD1/2PME681J		SEMICONDUCTORS		CN21,22 CN45 X801	KPE14 KPE4 ASS1018	
C1313,1314	MYLOR FILM CAPACITOR	CQMA472J50		RESISTORS			Q822-825 TRANSISTOR	2SA1048			
C1315,1316	ELECTR. CAPACITOR	CEASR47M50	CN26	JACK (HEAD PHONE) AKN1010 JUMPER CONNELTOR KPC5 5-P			D841-844 LED	AEL1084			
C1317,1318	AUDIO FILM CAPACITOR	CFTXA154J50					D845,846,848 LED (RED)	AEL1065			
C1319,1320	AUDIO FILM CAPACITOR	CFTXA153J50					D850-852 LED	AEL1094			
C1321,1322	AUDIO FILM CAPACITOR	CFTXA224J50		TRANS CONNECT ASSEMBLY			D853 LED (RED)	AEL1065			
C1323,1324	AUDIO FILM CAPACITOR	CFTXA683J50					D854-859 DIODE	HSS104-2			
C1325,1326	AUDIO FILM CAPACITOR	CFTXA473J50							IC701,702	SN74LS05N	
C1327,1328	MYLOR FILM CAPACITOR	CQMA682J50		BALANCE ASSEMBLY					IC703	TC4081BP	
C1329,1330	AUDIO FILM CAPACITOR	CFTXA103J50		RESISTOR					IC727	NJM4558DXP	
			VR372	(10K×2)	ACS1042				IC771	PD3133-C	
C1331,1332	ELECTR. CAPACITOR	CEAS100M25		MIC ASSEMBLY							
RESISTORS				SEMICONDUCTORS			DECK CTRL ASSEMBLY (AWZ2645)				
	ALL RESISTORS	RD1/8PM□□□J									
			IC371	OP-AMP IC	NJM4558DXP		SEMICONDUCTORS				
MAIN VR ASSEMBLY				CARACITORS			IC801	PDE033			
SEMICONDUCTORS							IC802	SN74LS42N			
IC391		NJM4558DXP							D771-780	DIODE	
				C371	CERAMIC CAPACITOR CKCYF473Z50				D782	DIODE	
				C372	ELECTR. CAPACITOR CEAS010M50				D785,786	DIODE	
				C373	CERAMIC CAPACITOR CKMYB681K50						
				C375	ELECTR. CAPACITOR CEAS100M25						
				C376	CERAMIC CAPACITOR ACG1019A						
COILS							Q801,802 TRANSISTOR	RN2204			
Q391,392	TRANSISTOR	2SC2878					Q803-806 TRANSISTOR	RN1201			
Q393	TRANSISTOR	2SA1048					Q807-812 TRANSISTOR	2SA1515			
				C377	ELECTR. CAPACITOR CEAS100M25						
				C379,380	CERAMIC CAPACITOR CKCYF473Z50						
L391	AXIAL INDUCTOR	LAU5R6K		RESISTORS			Q813-815 TRANSISTOR	RN1201			
L392											
CAPACITORS									L771	AXIAL INDUCTOR	
C391,392	ELECTR. CAPACITOR	CEAS4R7M50		OTHER						LAU220K	
C393,394	CERAMIC CAPACITOR	CCMSL101J50									
C395,396	CERAMIC CAPACITOR	CKCYF473Z50		JACK MIC	AKN1017						
C397,398	ELECTR. CAPACITOR	CEAS470M10									
RESISTORS				DECK-1 SW ASSYEMBLY							
VR391	VR (100K×2)	ACX1021		SWITCHES							
	OTHER RESISTORS	RD1/8PM□□□J		S811-815 TACT SWITCH		ASG1029					
HEAD PHONE ASSEMBLY							RESISTORS				
CAPACITOR				DECK-2 SW ASSYEMBLY			VR801,802 VR	VRTM6H203			
C401	CERAMIC CAPACITOR	CKCYF473Z50		SWITCHES			VR803 VR	VRTM6H103			
				S821-825 TACT SWITCH		ASG1029			R899	CARBON FILM RESISTOR	
										RD1/2PM1R8J	
							OTHER RESISTORS	RD1/8PM□□□J			
										OTHER RESISTORS	

Mark No.	Description	Parts No.
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OTHERS

V771	FL TUBE	AAV1071
V772	FL TUBE	AAV1069
X771		ASS1018

POWER SUPPLY ASSEBLY (AWZ2241)

SEMICONDUCTORS

IC1001		TC4069UBP	
IC1002		NJM78M56FA	
Q1002	TRANSISTOR	2SB560	
Q1003	TRANSISTOR	2SC2240	
D1001,1003	DIODE	S5566	
D1004	ZENER	DIODE	RD33ESB2
D1005	DIODE	S5566	
D1006	ZENER	DIODE	UZ-11BSB
D1007	DIODE	S5566	
D1008	DIODE	HSS104-02	
D1009	ZENER	DIODE	RD5.1ESB
D1011-1013	DIODE	HSS104-02	
D1014	DIODE	S5566	

RELAY

RY1001	RELAY	ASR1027
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TRANSFORMER

▲ T1001	POWER	ATT1092
	TRANSFORMER	

CAPACITORS

C1001	ELECTROLYTIC	CEAS470M63
	CAPACITOR	
C1004	ELECTR. CAPACITOR	CEAS221M50
C1005	ELECTROLYTIC	CEHAQ220M50
	CAPACITOR	
C1006	ELECTR. CAPACITOR	CEAS470M50
C1007	ELECTR. CAPACITOR	CEAS222M16
C1008	ELECTR. CAPACITOR	CEAS470M16
C1009	ELECTR. CAPACITOR	CEAS100M50
C1010	ELECTR. CAPACITOR	CEAS100M50
C1011	ELECTR. CAPACITOR	CEAS4R7M50

RESISTORS

R1003	METAL OXIDE	RS2LMF222J
	RESISTOR	
R1011	CARBON FILM	RD1/4PMFL4R7J
	RESISTOR	
R1005		RS3PMFR331J
R1020		RS3PMFR221J
OTHER	RESISTORS	RD1/8PM□□□J

Mark No.	Description	Parts No.
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OTHER

▲	AC SOCKET 1-P	AKP1035
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CONNECT ASSEMBLY

No parts are supplied with the CONNECT assembly.

6. ADJUSTMENTS

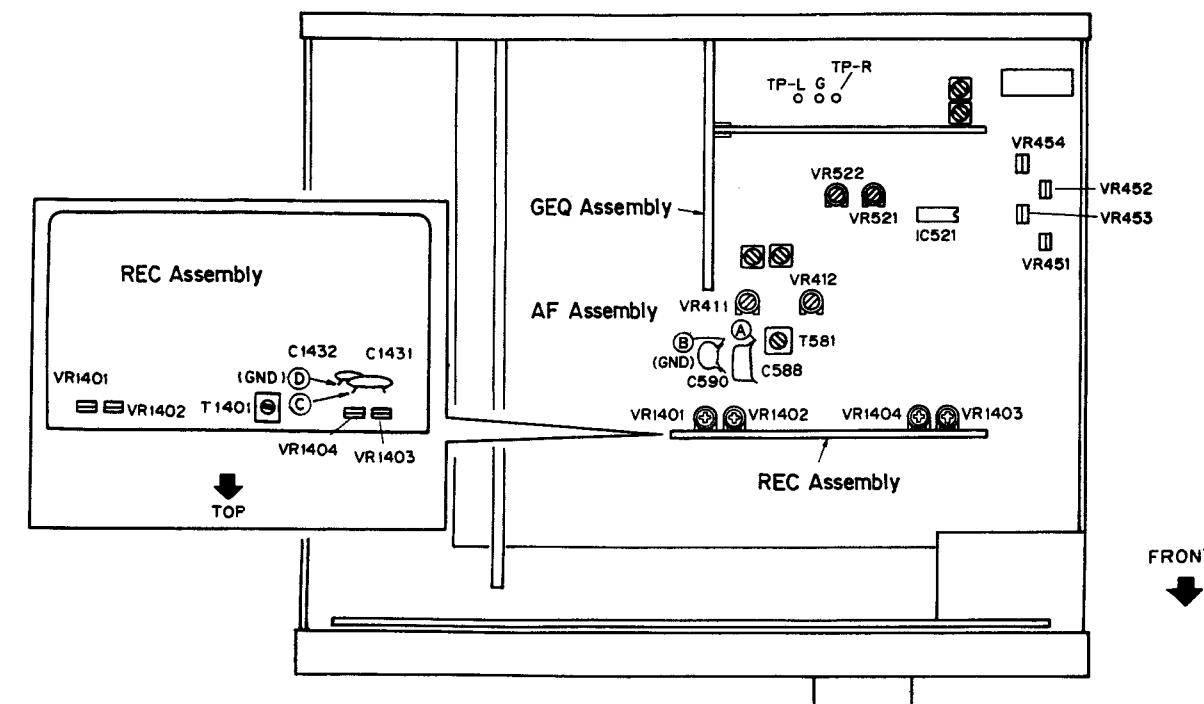


Fig 6.1. Adjustment location

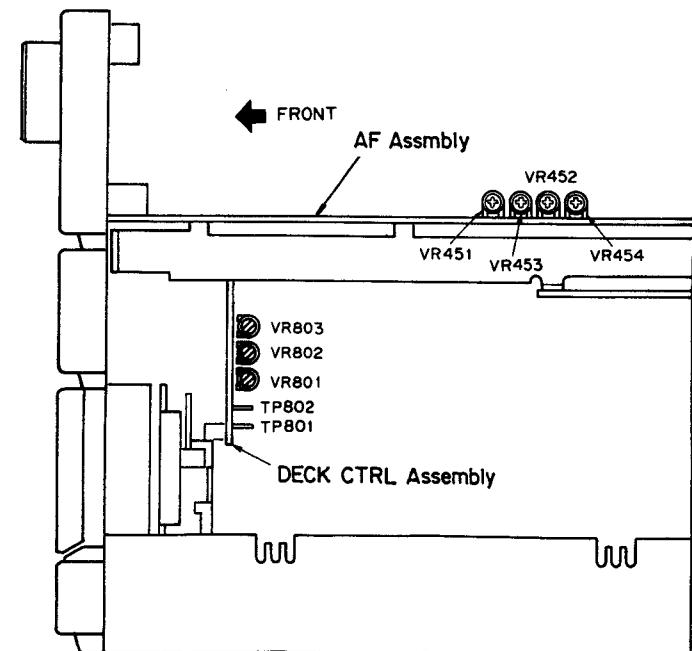


Fig 6.2. Adjustment location

- Adjustment and measurement are usually made in the AF assembly, unless specified otherwise.
- Set the graphic equalizer to OFF, the BALANCE control knob to Center and the MIC LEVEL control knob to MIN.
- The function should always be set to "TAPE" unless otherwise specified.

Adjustment of Mechanical System

- Test tape: STD-301 (3 kHz 30 min)
- Setting of double speed mode: Short-circuit TP801 and TP802 of the DECK CTRL assembly To release the mode, break the short circuit.

1. Adjustment of tape speed							
No.	Mode	Input signal & Test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	PLAY	Playback the STD-301 tape to 3 kHz.	Deck I	DECK CTRL Assembly VR801	TP-L (Lch)	Press the PLAY SW and adjust the frequency to 3010 Hz \pm 10 Hz. Make sure that the wow and flutter is within 0.2 %.	
2	PLAY (Double speed mode)			—		Press the PLAY SW in double speed mode and confirm that the frequency is 6000 Hz \pm 1000 Hz. Note down the figure.	Release the double speed mode after adjustment.
3	PLAY (Double speed mode)		Deck II	DECK CTRL Assembly VR803	TP-R (Rch)	Press the PLAY SW in double speed mode and adjust the frequency to be within \pm 30 Hz of the figure recorded at step No. 2.	Release the double speed mode after adjustment.
4	PLAY			DECK CTRL Assembly VR802		Press the PLAY SW and adjust the frequency to 3010 Hz \pm 10 Hz. Make sure that the wow and flutter is within 0.2 %.	

Adjustment of Electric System

■ Check and conduct the following before adjusting the electric system.

1. Adjustment of tape speed has been completed.
2. Clean and demagnetize the head using a head eraser.
3. When measured, the level should be 0 dBV = 1 Vrms.
4. Use side A of the specified tape for adjustment.
STD-331B: For adjustment of playback system.
STD-630: NORMAL blank tape
5. Prepare the following measuring devices:
AC millivoltmeter, Low-frequency oscillator, Attenuator, Oscilloscope
6. Adjust both L and R channels, unless specified otherwise.
7. Set the DOLBY NR switches to OFF, unless specified otherwise.
8. Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
9. Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an imperfect result.

List of Adjustment

Deck I

1. Head azimuth adjustment
2. Playback level adjustment
3. Bias oscillation frequency adjustment
4. Recording level adjustment
5. Adjustment frequency characteristics of recording / playback

Deck II

1. Head azimuth adjustment
2. Playback level adjustment
3. Bias oscillation frequency adjustment
4. Recording level adjustment
5. Adjustment frequency characteristics of recording / playback

Checking of Decks I and II

1. Make sure the ALC is operating properly.

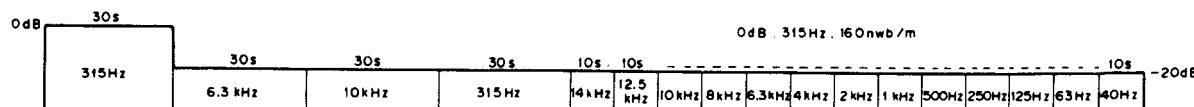


Fig. 6.3 Test tape STD-331B

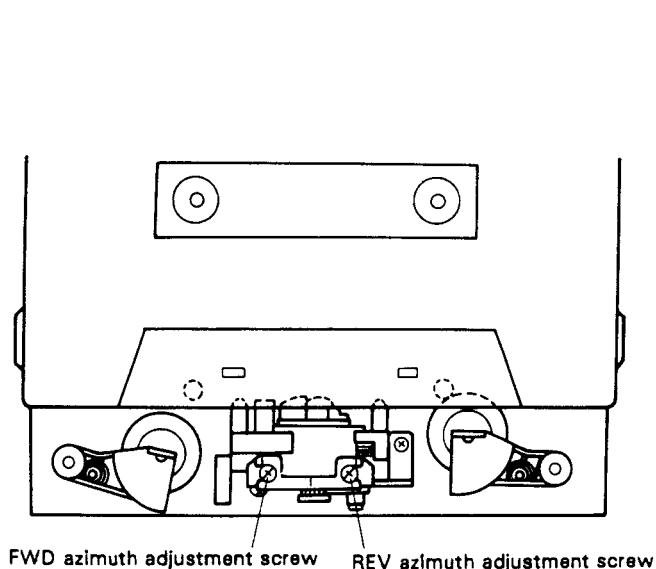


Fig. 6.4 Head azimuth adjustment

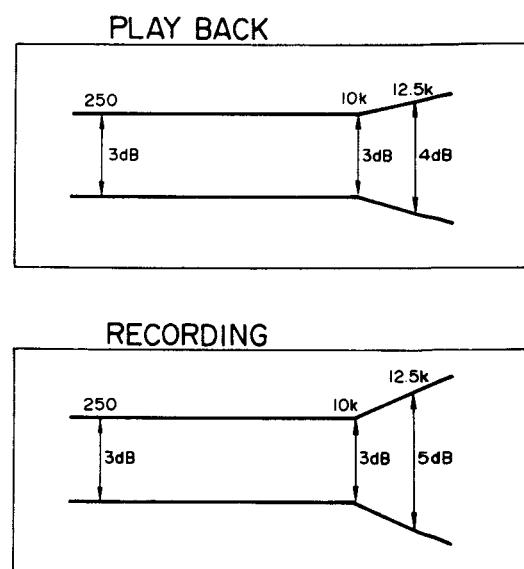


Fig. 6.5 Frequency characteristics

• Head Adjustment of Deck I

- Deck I is provided with an automatic tape selector mechanism.
- Note: Do not switch over FWD and REV while the driver is inserted.

1. Head Azimuth Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (10 kHz, -20 dB).	Head azimuth adjustment screw (Fig. 6-4)	TP-L (Lch) TP-R (Rch)	Maximum playback signal level	Lock the screw with screw lock after completing adjustment.

2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (315 Hz, 0 dB).	VR453 (Lch) VR454 (Rch)	TP-L (Lch) TP-R (Rch)	-10.3 dBV	

3. Bias oscillation frequency adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Load the test tape STD-630 and set to record mode.	T1401	Area between ② and ① (REC Ass'y) shown in Fig. 6-1.	The oscillation frequency is 105 kHz ± 1 kHz.	

4. Recording Level Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-10.3 dBV	
2	NORM	REC / PLAY	Record and playback the test tape STD-630 (315 Hz).	REC Assembly VR1401 (Lch) VR1402 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the recording and correction so that the playback level of 315 Hz is -10.3 dBV.	

5. Adjustment of frequency characteristics of recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by under-adjusting the bias.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-30.3 dBV	
2	NORM	REC / PLAY	Record and playback the test tape STD-630 (315 Hz and 10 kHz).	REC Assembly VR1403 (Lch) VR1404 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the correction so that the playback level of 10 kHz remains 0 ± 0.5 dB in relation to 315 Hz.	

• Head Adjustment of Deck II

- Deck II is provided with an automatic tape selector mechanism.
- Note: Do not switch over FWD and REV while the driver is inserted.

1. Head Azimuth Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (10 kHz, -20 dB).	Head azimuth adjustment screw (Fig. 6-4)	TP-L (Lch) TP-R (Rch)	Maximum playback signal level	Lock the screw with screw lock after completing adjustment.

2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (315 Hz, 0 dB).	VR451 (Lch) VR452 (Rch)	TP-L (Lch) TP-R (Rch)	-10.3 dBV	

3. Bias oscillation frequency adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Load the test tape STD-630 and set to record mode.	T581	Area between Ⓐ and Ⓑ (AF Assembly) shown in Fig. 6-1.	The oscillation frequency is 105 kHz ± 1 kHz.	

4. Recording Level Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-10.3 dBV	
2	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz).	VR521 (Lch) VR522 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the recording and correction so that the playback level of 315 Hz is -10.3 dBV.	

5. Adjustment of frequency characteristics of recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by under-adjusting the bias.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-30.3 dBV	
2	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz and 10 kHz).	VR411 (Lch) VR412 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the correction so that the playback level of 10 kHz remains 0 ± 0.5 dB in relation to 315 Hz.	

• Checking Procedure for Decks I and II

1. Action of ALC

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Checking value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-10.3 dBV	
2				+10 dB against the input level of step 1.		-5.5 dBV ± 2.5 dB	

7. IC INFORMATION

• Terminal function of PDE033 (DECK Control Micro Computer)

Note: I: CMOS input, N: Nch.open drain output,
O: CMOS output, UN: Nch.open drain output with pull-up MOS Transistor.

NO	Terminal Name	I/O	Function	Active																						
1	S1 (DATA1)	N	These pins are used to send data to or receive data from the TUNER micro computer.	H/L																						
2	SO (DATA2)	O		H/L																						
3	SC	O		H/L																						
4	SREQ	O	Not used.	—																						
5	FADER (LED)	O	Thin pin activates the LED during FADER REC ording.	H																						
6	1 BIAS	O	Thin pin oscillates the bias voltage only in the 1 mechanism REC mode.	H																						
7	2 BIAS	O	Thin pin oscillates the bias voltage only in the 2 mechanism REC mode.	H																						
8	TRCH	I	A "L"pulse having a 22—28.6msec width is input from the CD player when the CD player has detected an interval between tunes during track search.	L																						
9	COPY	UN	These pins select the status of the Dolby IC1301 and that of input switching of rec.amplifier IC521, according to the operational status of the REC and COPY, and the function.	<table border="1"> <thead> <tr> <th>FUNCTION</th><th>REC MODE</th><th>COPY (PIN 9)</th><th>DOLBY P/R (PIN 10)</th></tr> </thead> <tbody> <tr> <td rowspan="2">TAPE</td><td>NOT RECORDING</td><td>L</td><td>L</td></tr> <tr> <td>RECORDING</td><td>H</td><td>L</td></tr> <tr> <td rowspan="2">OTHERS</td><td>NOT RECORDING</td><td>L</td><td>L</td></tr> <tr> <td>RECORDING</td><td>L</td><td>H</td></tr> <tr> <td></td><td>DUBBING copy (AT STANDARD AND DOUBLE SPEED)</td><td>L</td><td>L</td></tr> </tbody> </table>	FUNCTION	REC MODE	COPY (PIN 9)	DOLBY P/R (PIN 10)	TAPE	NOT RECORDING	L	L	RECORDING	H	L	OTHERS	NOT RECORDING	L	L	RECORDING	L	H		DUBBING copy (AT STANDARD AND DOUBLE SPEED)	L	L
FUNCTION	REC MODE	COPY (PIN 9)	DOLBY P/R (PIN 10)																							
TAPE	NOT RECORDING	L	L																							
	RECORDING	H	L																							
OTHERS	NOT RECORDING	L	L																							
	RECORDING	L	H																							
	DUBBING copy (AT STANDARD AND DOUBLE SPEED)	L	L																							
10	Dolby P/R	UN	H/L																							
11	PB1/2	UN	This pin controls switching of the playback mechanism (L: 1mechanism).	H/L																						
12	2 REC MUTE	UN	This pin is at "L"only in the 2 mechanism record mode.	H																						
13	MS. PULSE	N	This pin detects the MS pulse (H: during playback).	H/L																						
14	1 REC MUTE	UN	This pin is at "L"only in the 1 mechanism record mode.	H																						
15	FADER	UN	This pin turns the Q601 ON to discharge the capacitor C642, which controls the time constant of the build up time of the power supply to the BIAS oscillation circuit. Turning the FADER ON selects the REC PAUSE mode and this pin goes to "H". After that, depressing the PLAY button (either the FWD or the REV) returns this pin from "H" to "L". In the case of the FADER REC mode with the ASES activated, this pin remains at "H" for 100msec after starting.	H																						
16	PB. MUTE	UN																								
17	1 PULSE	N	This pin detects the 1 mechanism hall device pulse.	H/L																						
18	2 PULSE	N	This pin detects the 2 mechanism hall device pulse.	H/L																						
19	HI/NORM	N	This pin controls the tape speed (H: double speed).	H/L																						
20	POW.RY	O	This pin becomes "H"when power is turned on.	H																						
21	1. MOTOR	N	This pin controls the 1 mechanism motor (L: motor running).	L																						

NO	Terminal Name	I/O	Function	Active
22	P. ASES	N	This pin controls the PARALLEL ASES LED.	L
23	1. ●	N	This pin controls the 1 mechanism REC LED.	L
24	2. MOTOR	N	This pin controls the 2 mechanism motor (L: motor running).	L
25	DISCO ASES	O	Not used.	H
26	SP. RY	O	This pin controls the SP RELAY (RY351). This mutes for 5 seconds after the power is turned on, and turns the SP RELAY OFF immediately after the power is turned off.	L
27	V-UP	O	This pin turns the Motor Volume up or down by controlling the TA7291.	H
28	V-DOWN	O		H
29	L-MUTE	O	This pin activates muting for 0.5 seconds when the FUNCTION is switched or SURROUND or DIRECT is turned to ON/OFF. This mutes the output volume (VR391) for 0.3 seconds after the SP RELAY is turned ON with the power ON.	H
30	TEST	—	Not used (GND)	—
31	Vss	—	GND	—
32	OSC1	—	Connects 4.19 MHz ceramic resonator.	—
33	OSC2	—		—
34	RES	—	RESET pin	L
35	A	O	These pins transfer 3bit data to the KEYS CAN OUT IC802 (M74LS42P) which are used as the KEYS CAN output K00-K06.	L/H
36	B	O		L/H
37	C	O		L/H
38	1.► (LED)	N	This pin controls the 1 mechanism FWD PLAY LED.	L
39	1.◀ (LED)	N	This pin controls the 1 mechanism REV PLAY LED.	L
40	2.► (LED)	N	This pin controls the 2 mechanism FWD PLAY LED.	L
41	2.◀ (LED)	N	This pin controls the 2 mechanism REV PLAY LED.	L
42	2. ● (LED)	N	This pin controls the 2 mechanism REC LED.	L
43	ASES (LED)	N	This pin controls the ASES (FADE LED).	L
44	R. REC (LED)	N	This pin controls the RELAY REC LED.	L
45	R. ASES (LED)	N	This pin controls the RELAY ASES LED.	L
46	SOL2B	O	This pin controls the 2 mechanism FF/REW solenoid.	H
47	SOL2A	O	This pin controls the 2 mechanism PLAY solenoid.	H
48	SOL1B	O	This pin controls the 1 mechanism FF/REW solenoid.	H
49	SOL1A	O	This pin controls the 1 mechanism PLAY solenoid.	H

NO	Terminal Name	I/O	Function	Active
50 55	KI0 KI5	I	This pin for the KEY matrix input.	H/L
56	KI6	N		
57	KI7			
58	SURROUND	UN	This pin controls the SURROUND ON/OFF.	H
59	DIRECT	UN	This pin controls the DIRECT ON/OFF.	H
60	F-MUTE	UN	This pin controls muting of the DATA OUT and VIDEO OUT pins. The muting duration is 0.5 seconds when FUNCTION is switched, or 0.3 seconds after the power is turned on, followed by energizing the SP RELAY (RY351).	H
61	INH	UN	These pins switch the FUNCTION.	H/L
62	B	UN		H/L
63	A	UN		H/L
64	VDD	—	+5V	—

8. FOR HE TYPE

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts without part number cannot be supplied.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “◎” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The DC-Z93/HE type is the same as the DC-Z93/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HB type	HE type	
	POWER SUPPLY assembly	AWZ2241	AWZ2239	
	CONNECT assembly	Non supply	Non supply	
	FU2001 Fuse (T2A/250V)	AEK-511	AEK-017	
	FU2003 Fuse (T1.6A/250V)	AEK-510	AEK-405	
	FU2004,FU2005 Fuse (T1.25A/250V)	AEK-509	AEK-018	
	AC Power cord	ADG1052	ADG1049	
	Operating Instructions (English)	ARB1218	.....
	Operating Instructions	.....	ARC1182	
	Operating Instructions	.....	ARE1146	

POWER SUPPLY assembly (AWZ2239)

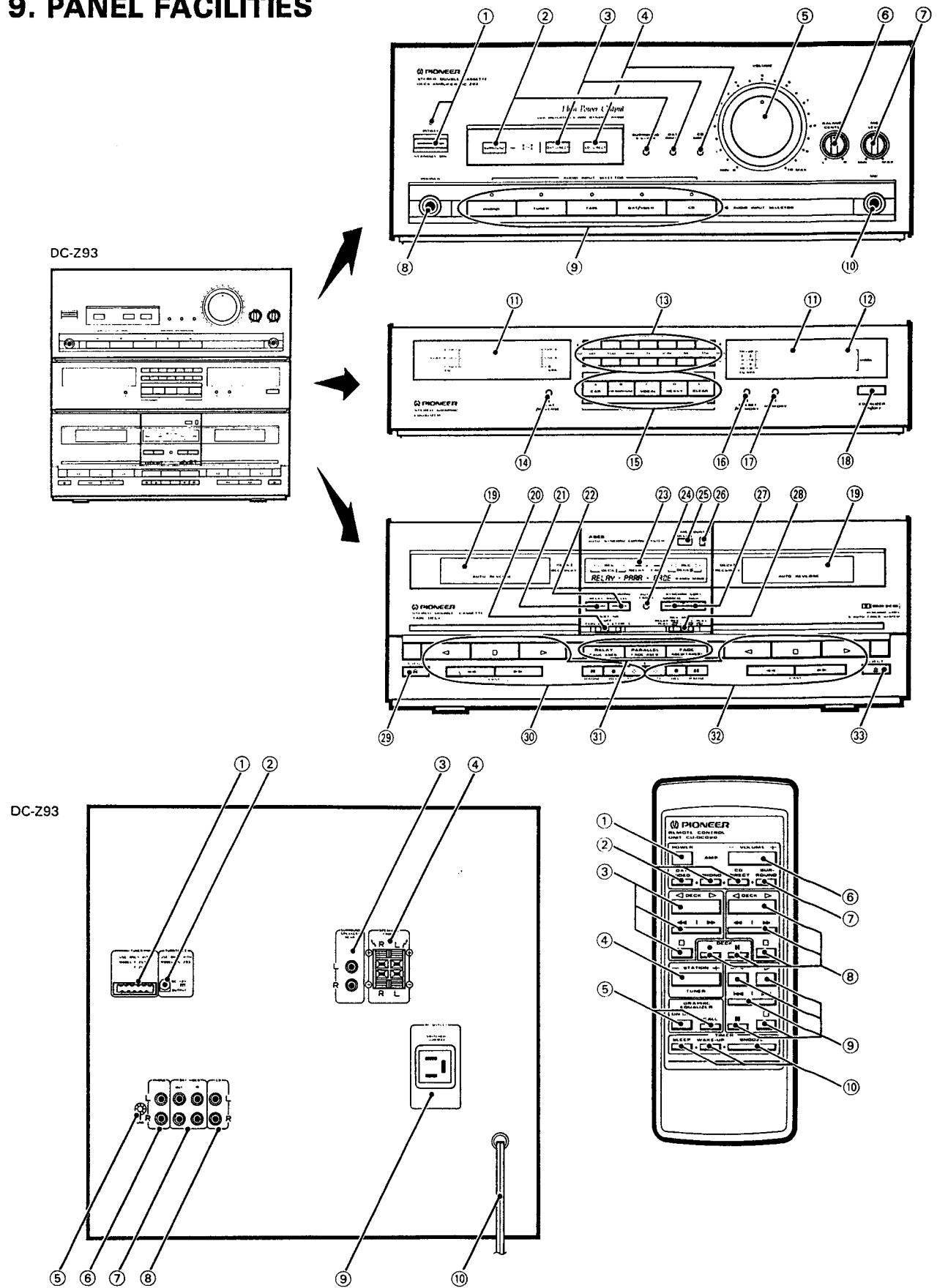
The POWER SUPPLY assembly (AWZ2239) is the same as the POWER SUPPLY assembly (AWZ2241) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2241	AWZ2239	
	AC socket (OUTLET)	AKP1035	AKP1034	

CONNECT assembly

The difference in parts between the CONNECT assemblies HB type and HE type is only the jumper wire.

9. PANEL FACILITIES



REAR PANEL FACILITIES

Cassette tape deck amplifier: DC-Z93

① TUNER jacks

Connect the tuner cord here.

② TURNTABLE (DC 12 V OUTPUT) jack

This jack supplies power to the turntable.

③ SURROUND SPEAKERS jacks

Connect the Surround speaker systems.

NOTE:

Connect a speaker system having a nominal impedance of 16 Ω or more.

④ SPEAKERS terminals

L: Connect the left speaker system as seen from the listening position.
R: Connect the right speaker system as seen from the listening position.

NOTE:

Connect a speaker system having a nominal impedance ranging from 6 Ω to 16 Ω.

⑤ Ground terminal (GND)

Connect this to the ground terminal on the turntable (except for PL-Z93).

⑥ PHONO input jacks

Connect the output cord of the turntable to these jacks.

⑦ DAT/VIDEO jacks

IN: Connect to audio output jacks of DAT, LD player or VCR, etc.
OUT: Connect to audio input jacks of DAT or VCR, etc.

⑧ CD input jacks

Connect to output jacks of a CD player.

⑨ AC OUTLET (SWITCHED 100 W MAX)

Power supplied through this outlet is turned on and off by the cassette tape deck amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:

Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.

This can cause the cassette tape deck amplifier to malfunction.

⑩ Power cord

Connect this to the AC wall socket.

FRONT PANEL FACILITIES

Cassette tape deck amplifier: DC-Z93

- This unit has an automatic tape type selector.
- Recording and playback are possible on both deck I and II.
- Sound can be recorded as adjusted by the graphic equalizer.

① Amplifier section

① POWER STANDBY/ON switch

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

The POWER indicator lights.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

When the POWER indicator is off, the unit is in STANDBY.
(The tuner display shows only the time.)

② SURROUND & STEREO WIDE switch/indicator

By turning this switch ON, you can enjoy surround reproduction when rear speakers are used.

By turning this switch ON, you can enjoy STEREO WIDE reproduction with greater left-right spread when rear speakers are not used.

The indicator lights when the switch is on.

NOTE:

- In the case of monaural source, SURROUND & STEREO WIDE effects cannot be obtained.
- SURROUND & STEREO WIDE functions do not operate if CD DIRECT or DAT DIRECT is on.

③ DAT DIRECT switch/indicator

Press this switch to listen to a DAT without passing the signal through sound quality adjustment circuits.

④ CD DIRECT switch/indicator

Press this switch to listen to a CD without passing the signal through sound quality adjustment circuits.

⑤ VOLUME control

⑥ BALANCE control

Used for changing the balance between left and right channels. Usually set this control to the centre position.

⑦ MIC LEVEL control

Used for adjusting the volume of microphone.

⑧ PHONES (Headphones) jack

For stereo headphones.

NOTE:

There is no output from the speakers when headphones are plugged into PHONES jack.

⑨ Input selector switches/indicators

[PHONO]

Press to play records on a turntable connected to the PHONO jacks.

[TUNER]

Press to listen to radio broadcast.

[TAPE]

Press to listen to cassette tape or VCR etc.

[DAT/VIDEO]

Press to listen to digital audio tape.

[CD]

Press to listen to a CD player connected to the CD jacks.

⑩ MIC (Microphone) jack

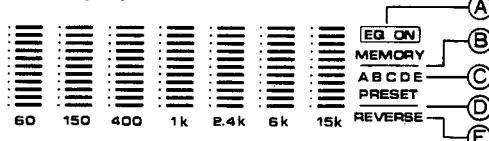
This is a standard jack for connecting a microphone.

Graphic Equalizer section

⑪ Graphic equalizer/Spectrum analyzer display

Usually this is the spectrum analyzer display. And becomes a graphic equalizer display during operation of the EQUALIZING CONTROL switches.

⑫ MODE display



Ⓐ EQ ON indicator

Lights when the EQUALIZER switch is set to ON. When this indicator is lit, the graphic equalizer can be used to adjust sound quality.

Ⓑ MEMORY indicator

When the line under "MEMORY" is lit, it indicates that the equalization curves you input in the memory recall switches can be recalled.

Ⓒ A – E indicators

Indicates which equalization curve is currently recalled.

- A: Curve stored in A/CAR. (Preset CAR or Memory A)
- B: Curve stored in B/PHONES. (Preset PHONES or Memory B)
- C: Curve stored in C/VOCAL. (Preset VOCAL or Memory C)
- D: Curve stored in D/HEAVY. (Preset HEAVY or Memory D)
- E: Curve stored in E/CLEAR. (Preset CLEAR or Memory E)

Ⓓ PRESET indicator

When the line under "PRESET" is lit, it indicates that the equalization curves factory preset in the memory recall switches can be recalled.

Ⓔ REVERSE indicator

Lights when FLAT/REVERSE switch is used to invert the equalization curve.

⑬ EQUALIZING CONTROL switches

These strengthen or weaken the indicated frequency band. Press the upper switch to emphasize; press the lower switch to attenuate.

⑭ FLAT/REVERSE switch

Press once to reset the equalizer to flat response (no equalization). Press again to reverse a previous curve (boosted frequencies will be attenuated, and vice versa).

⑮ Memory recall switches

Used for recalling equalization curves.

⑯ PRESET/MEMORY switch

Determines whether the equalizer curves recalled by the Memory recall switches are your memorized curves or factory preset curves.

⑰ MEMORY switch

Used for storing equalization curves you input in the memory recall switches.

⑱ EQUALIZER ON/OFF switch

Turns the equalizer on and off. The EQ ON indicator lights when this switch is on.

The equalizer can not be used to adjust the sound when CD DIRECT or DAT DIRECT is on.

Cassette Tape Deck Section

⑲ Cassette door

⑳ DOLBY* NR switch

Set this switch to B or C fore recording with the built-in Dolby NR systems and for playback of tapes which have been recorded using the Dolby NR systems.

- It is recommended that tapes recorded with Dolby NR (Type B or Type C) be so marked on the label. This will help prevent incorrect setting of the noise reduction switch during playback.

*

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

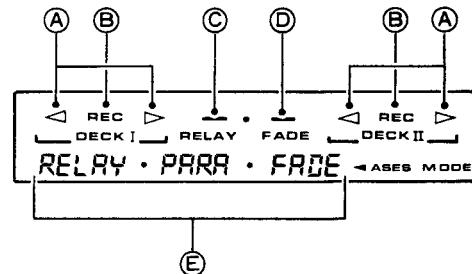
㉑ RELAY RECORDING switch

Use for relay recording from Deck I to Deck II. Deck II starts recording when Deck I finishes. To use put both decks in stop mode.

㉒ PARALLEL RECORDING switch

Deck I and Deck II record at the same time. To use put both decks in stop mode.

㉓ Operation indicators



Ⓐ Direction (◀, ▶): Indicates direction of tape travel during recording or playback. Flashes slowly in pause mode. Flashes rapidly during Music Search (MS).

Ⓑ REC: Lights when recording.

Ⓒ RELAY: Indicates relay recording in progress using Deck I and Deck II.

Ⓓ FADE: Lights when AUTO FADER switch is on.

Ⓔ ASES MODE

RELAY: relay edit in progress.

PARA: parallel edit in progress.

FADE: fade edit in progress.

㉔ AUTO FADER switch

Used for gradually fading out a recorded tape in Deck II. (The sound will be completely cut off after approximately 10 seconds and the tape will stop.)

㉕ DECK II COUNTER

②⑥ Counter reset switch

Press this switch to reset the Deck II tape counter display to 000.

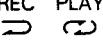
②⑦ SYNCHRO COPY switches

Used for tape copying.

NORMAL: Copying from the Deck I tape to the Deck II tape at normal recording/playback speed.

HIGH: Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.)

②⑧ REVERSE MODE switch

Switch position	During playback	During recording
RELAY PLAY 	Plays both tape sides. When one deck finishes playback, the other deck begins playback of both tape sides for 6 times. If there is a tape in only one deck, then that deck continuously plays both sides of the tape for 6 times.	Records on one side.
REC PLAY 	Plays both tape sides for 6 times maximum.	Records on both sides.

②⑨ Deck I EJECT switch**③⑩ Deck I Operation switches**

- ▷ (PLAY: FWD) ... For playing back a tape in the forward mode.
- ◁ (PLAY: REV) ... For playing back a tape in the reverse mode.
- (STOP) For stopping the tape.
- ▶▶ FAST Fast forward in forward mode, rewind in reverse mode.
Music search (MS) starts if this is pressed during playback.
- ◀◀ FAST Rewind in forward mode, fast forward in reverse mode.
Music search (MS) starts if this is pressed during playback.
- II PAUSE Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY switch.
- REC To set to recording standby mode. The REC indicator lights and the direction indicators (◁ and ▷) flash. Recording begins when you press the PLAY switch (◁ or ▷).
- MUTE Used for creating a blank space between songs. The unrecorded space is created for as long as this switch is kept depressed.

③⑪ A.S.E.S. switches

Used for automatically recording a CD on cassette tape.

RELAY: Recording continues on Deck II after tape ends on Deck I. If using this unit together with the PD-Z73T CD player, Deck II will record disc II after Deck I finishes recording disc I.

PARALLEL: Deck I and Deck II record at the same time.

FADE: The sound fades out at the end of the tape.

③⑫ Deck II Operation switches: Same as Deck I operation switches ⑩

③⑬ Deck II EJECT switch**Remote control unit****① POWER key****② Function keys**

- DAT/VIDEO Sets function to DAT/VIDEO.
- PHONO Sets function to PHONO.
- CD DIRECT Sets function to CD DIRECT.

③ DECK I operation keys: Same as Deck I operation switches ⑩ (Except PAUSE, REC, MUTE).

④ TUNER STATION key

- Before operation, memorize broadcast stations in the STATION CALL switches.
- + Stations change in order in the upward direction
- Stations change in order in the downward direction.

⑤ GRAPHIC EQUALIZER operation keys

ON/OFF: Turns the equalizer on and off.

CALL: Recalls the preset equalization curves (PRESET) and memorized equalization curves (MEMORY) in sequence.

⑥ VOLUME + (UP)/- (DOWN) key

When pressed, VOLUME on the amplifier is actually moved by a motor.

⑦ SURROUND key

Turns SURROUND & STEREO WIDE on and off.

⑧ Deck II operation keys: Same as Deck I operation switches ⑩ (Except MUTE).

⑨ CD operation keys

Perform the connections so that the CD player is operated by the remote control unit.

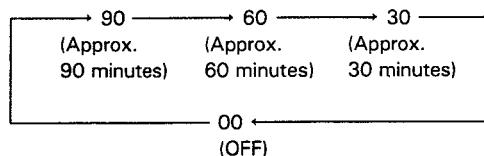
- ▷ Play
- DISC DISC selection
- Stop
- Pause
- ◀◀, ▶▶ Track search

NOTE:

Note that the DISC selector key on the remote control unit may not operate, depending on the CD player used.

⑩ Timer operation keys

SLEEP: Sets the sleep timer. Each time you press this key, the setting changes as shown here. The current setting is shown on the tuner display.
Power turns off when your set time has elapsed.



If you press the SLEEP key during SLEEP operation, the display will show the time remaining till power turns off.

WAKE-UP: Timer playback setting/cancellation can be performed when the timer playback time has been set. This is shown in the tuner display section.

SNOOZE: Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.

The amplifier input selector automatically switches to the music source being operated when you press the CD playback (▷), cassette tape deck playback (◁, ▷), or tuner station controls.

NOTE:

It is not possible to operate the CD player with the remote control unless the remote control cord is connected.

Range of remote control

When the remote control unit is pointed at the remote sensor window on the tuner and any of its keys is pressed, the tuner and other components can be operated by remote control.

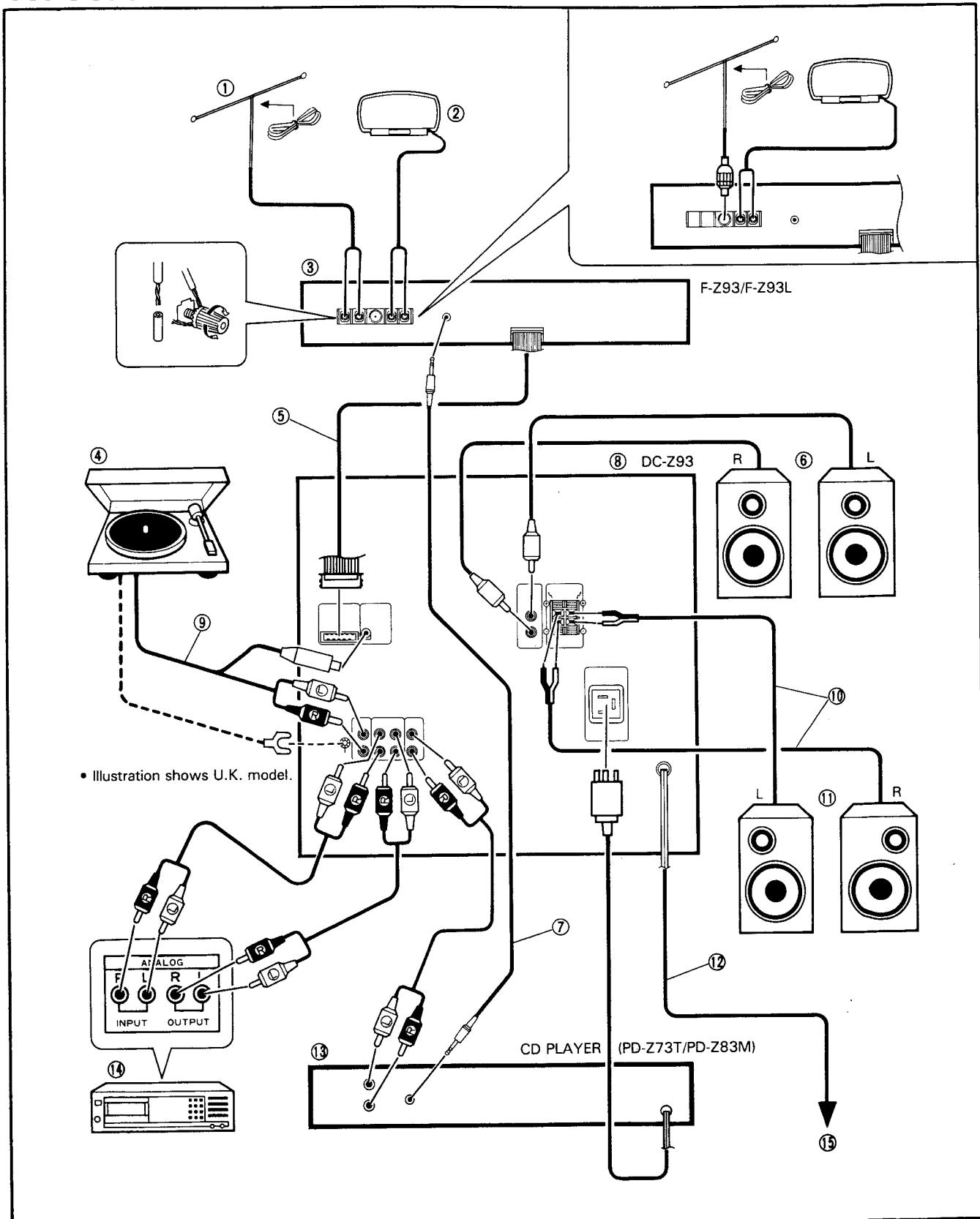
Distance: Within a range of approx. 7 meters from the remote sensor window on the tuner.

Angle: Within approx. 30 degrees from the center of the remote sensor window on the tuner.

Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window on the tuner.

Performance of the remote control unit is adversely affected in the presence of strong fluorescent light. Keep such lights away, specially from the sensor window.

10. CONNECTIONS



- ① Accessory FM antenna
- ② Accessory AM loop antenna
- ③ FM/AM tuner (F-Z93 or F-Z93L)
- ④ Turntable (PL-Z93)
- ⑤ Tuner input/output cord
- ⑥ Surround speaker system
- ⑦ CD player control cord
- ⑧ Cassette tape deck amplifier
- ⑨ Turntable output cord
- ⑩ Speakers cord
- ⑪ Speaker system
- ⑫ Power cord
- ⑬ CD player (Separately sold PD-Z73T or PD-Z83M)
- ⑭ Digital audio tape deck (DAT) or video cassette recorder (VCR)
- ⑮ To the AC wall socket

Plug the power cord into the AC wall socket only after all the connections have been completed.

If the FM antenna terminal of the FM/AM tuner is a PAL connector then refer to connection diagram

Proceed as follows with the set up and connections.

1. Place the cassette tape deck amplifier on top of the CD player.
2. Connect the CD player OUTPUT jacks to the cassette tape deck amplifier CD INPUT jacks with audio cords.
If using this unit together with the optional CD player PD-Z73T or PD-Z83M, connect the control cord ⑦.
3. Place the tuner on top of the cassette tape deck amplifier.
4. Connect the tuner input/output cord ⑤ to cassette tape deck amplifier.

TUNER CONNECTION
Insert the connector until it locks, thus ensuring that it is connected. When disconnecting the connector, pull it in the opposite direction while pressing the left and right claws.

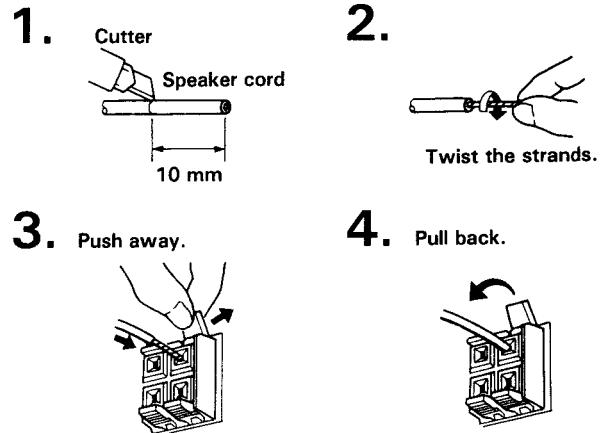
5. Connect the FM antenna ① and the AM loop antenna ② to the tuner's antenna terminals.
6. Place the turntable on top of the tuner.
7. Connect the turntable's cords ⑨ to the cassette tape deck amplifier's jacks.
If using the turntable PL-Z93, connect the turntable's audio cords and power supply cord respectively to the cassette tape deck amplifier's PHONO jacks and DC 12V OUTPUT jack.
If using a different turntable, connect its audio cord and ground cord.
8. Use the "DAT/VIDEO" jacks for connection to the audio input/output jacks of a DAT or VCR.
If connecting an LD player, connect the LD player's audio output jacks to the "DAT/VIDEO" input jacks.

NOTE:

- Insert the plugs securely into the jacks. Improper connection can lead to sound distortion or malfunction.
- The white plug is for the left channel connection and the red plug for the right channel connection.

9. Connect the speaker cords ⑩ to SPEAKERS terminals.
Connect the "+" terminals on the cassette tape deck amplifier to the "+" terminals on the speakers, the "-" terminals on the cassette tape deck amplifier to the "-" terminals on the speakers.

Connecting the speaker cords.



NOTE:

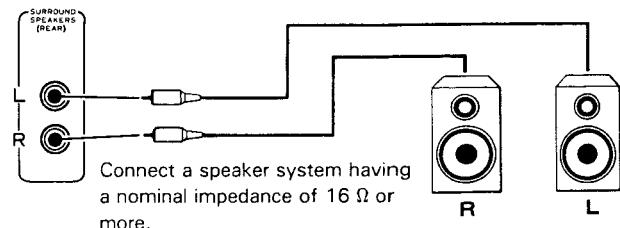
Do not allow the conductors of the cords to project out of the terminals or to come into contact with other conductors. A breakdown or failure may occur when conductors touch.

Speaker impedance

Connect speaker systems with a nominal impedance of ranging from 6 to 16 Ω.

Surround speaker connection

Connect the plugs properly.



10. Finally, connect the power cord ⑫ to the AC wall socket ⑮.

CONDENSATION

When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

6. RÉGLAGE

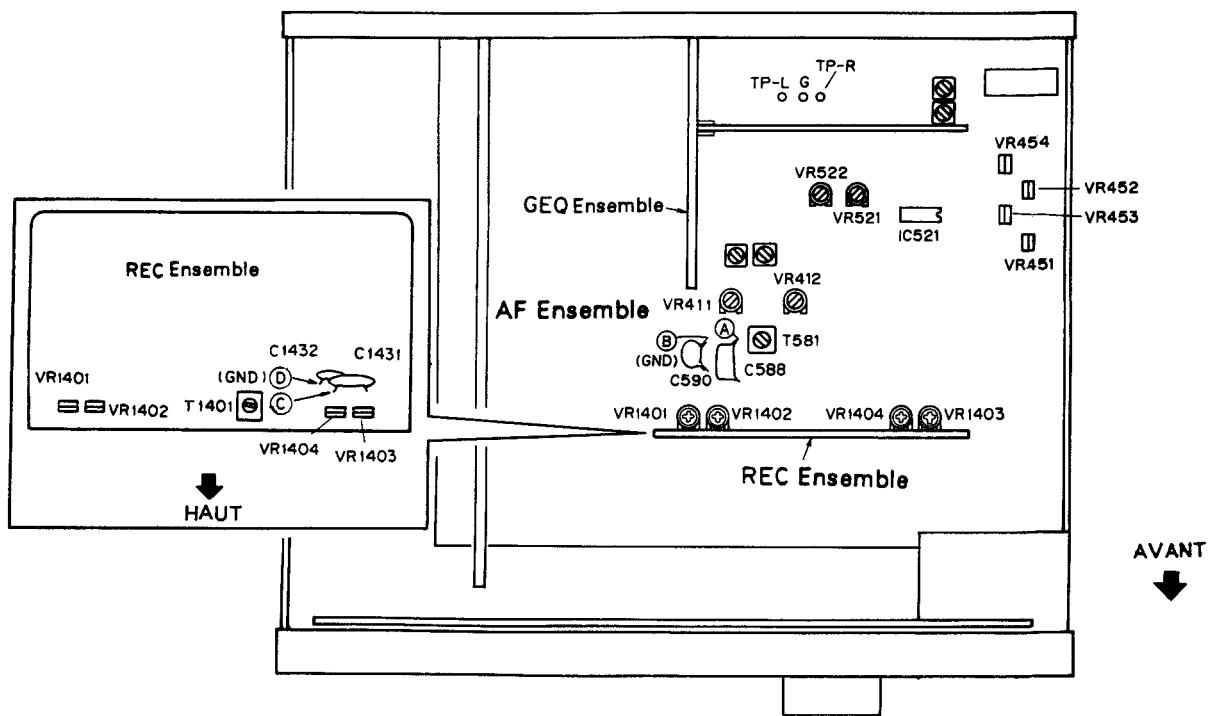


Fig 6.1 Points de réglage

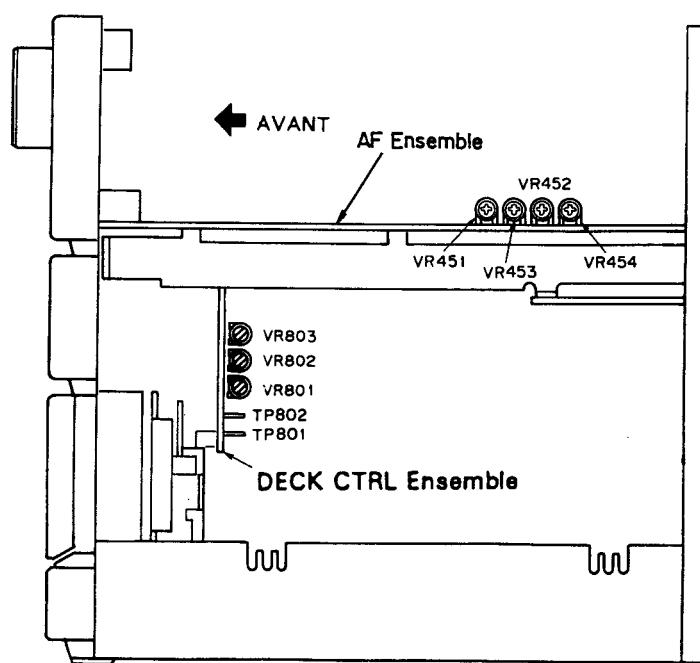


Fig 6.2 Points de réglage

- Les réglages et les mesures sont généralement faits dans l'ensemble AF, à moins de spécification contraire.
- Régler l'égaliseur graphique sur OFF, la commande d'équilibre (BALANCE) en position centrale et le volume de la commande de niv de microphone (MIC LEVEL) sur MIN.
- La fonction doit toujours être réglée sur "TAPE" à moins de spécification contraire.

Réglages mécaniques

- Bande d'étalonnage: STD-301 (3 kHz, 30 mn.)
- Réglage du mode de vitesse double: Court-circuiter TP801 et TP802 de l'ensemble de DECK CTRL. Pour libérer le mode, ouvrir le court-circuit.

1. Réglage de la vitesse de bande

No.	Mode	Signal appliqué /bande d'étalonnage	Emplacement du réglage		Emplacement du point de mesure	Valeur relevée	Dbservations
1	PLAY	Reproduire la bande STD-301 par 3 kHz.	Platine I	ENSEMBLE COMM. PLATINE VR801	TP-L (can. G)	Appuyer sur le contacteur PLAY et régler la fréquence sur 3010 Hz \pm 10 Hz. Vérifier que le pleurage et scintillement est dans la limite de 0.2%.	
2	PLAY (Mode de vitesse double)			—		Appuyer sur le contacteur PLAY dans le mode de vitesse double et vérifier que la fréquence est 6000 Hz \pm 1000 Hz. Noter le chiffre.	Libérer le mode de vitesse double après le réglage.
3	PLAY (Mode de vitesse double)		Platine II	ENSEMBLE COMM. PLATINE VR803	TP-R (can. D)	Appuyer sur le contacteur PLAY dans le mode de vitesse double et régler la fréquence pour qu'elle soit dans la limite de \pm 30 Hz du chiffre noté dans l'étape No. 2.	Libérer le mode de vitesse double après le réglage.
4	PLAY			ENSEMBLE COMM. PLATINE VR802		Appuyer sur le contacteur PLAY et régler la fréquence sur 3010 Hz \pm 10 Hz. Vérifier que le pleurage et scintillement est dans la limite de 0.2%.	

Réglages électriques

■ Vérifier les points suivants et effectuer les opérations suivantes avant procéder aux réglages électriques.

1. Le réglage de la vitesse de bande a été complété.
2. Nettoyer et démagnétiser la tête avec un démagnétiseur de tête.
3. Lors de la mesure, le niveau doit être de 0 dBV = 1 Vepp.
4. Utiliser la face A de la bande spécifiée pour le réglage. STD-331B: Pour le réglage du système de lecture.
STD-630: Bande vierge NORMAL
5. Préparer les instruments de mesure suivants:
Millivoltmètre CA, oscillateur à basse fréquence, éatténuateur et oscilloscope.
6. Régler les deux canaux L (gauche) et R (droit), sauf spécification contraire.
7. Régler les commutateurs DOLBY NR sur la position OFF, sauf spécification contraire.
8. Laisser chauffer l'appareil pendant plusieurs minutes avant le réglage. En particulier avant d'effectuer le réglage de la réponse en fréquence d'enregistrement et de lecture, laisser chauffer l'appareil pendant 3 à 5 minutes dans le mode d'enregistrement/lecture (REC/PLAY).

9. Toujours suivre l'ordre spécifié de la méthode réglage. Tout changement de l'ordre peut provoquer des résultats imparfaits.

Liste des réglages

Platine I

1. Azimut de la tête
2. Niveau de lecture
3. Réglage de fréquence d'oscillation de polarisation
4. Niveau d'enregistrement
5. Réponse en fréquence d'enregistrement / lecture

Platine II

1. Azimut de la tête
2. Niveau de lecture
3. Réglage de fréquence d'oscillation de polarisation
4. Niveau d'enregistrement
5. Réponse en fréquence d'enregistrement / lecture

Vérification des Platines I et II

1. Vérifier que le ALC fonctionne correctement.

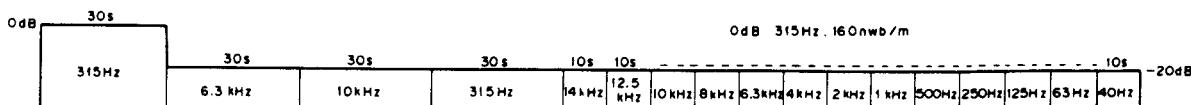


Fig. 6.3 Bande d'étalonnage STD-331B

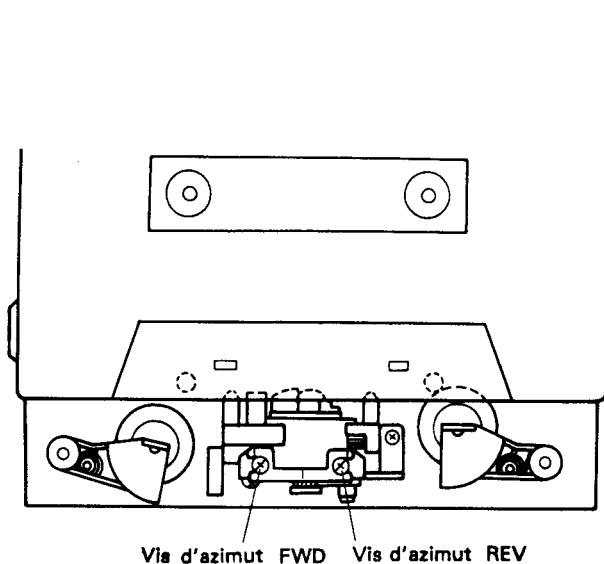


Fig. 6.4 Réglage d'azimut de la tête

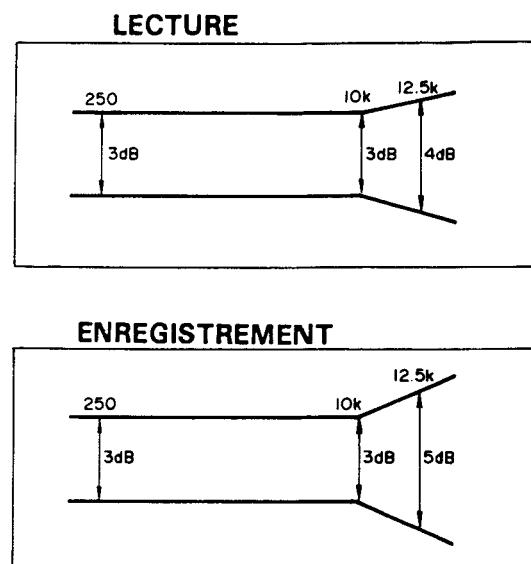


Fig. 6.5 Réponse en fréquence

• Réglage de la Platine I

- La Platine I est équipée d'un mécanisme de sélection automatique de bande.
- Remarque: Ne pas commuter entre le sens avant (FWD) et le sens arrière (REV) pendant que le tournevis est inséré.

1. Réglage d'azimut de la tête

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (10 kHz, -20 dB).	Vis de réglage d'azimut de tête (Fig. 6-4)	TP-L (can. G) TP-R (can. D)	Niveau maximum du signal de lecture	Une fois le réglage terminé, bloquer la vis avec un frein de vis.

2. Réglage du niveau de lecture

- Toujours effectuer un réglage minutieux, car la valeur réglée sera le niveau Dolby pour la lecture.

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (315 kHz, 0 dB)	VR453 (can. G) VR454 (can. D)	TP-L (can. G) TP-R (can. D)	-10.3 dBV	

3. Réglage de fréquence d'oscillation de polarisation

Opéra-tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Obserrations
1	NORM	REC	Charger la bande d'ééalonage STD-630 et régler dans le mode d'enregistrement.	T1401	Partie entre ② et ① (ensemble d'enregistrement (REC)) indiquée sur la Fig. 6-1.	La fréquence d'oscillation est de 105 kHz ± 1 kHz.	

4. Réglage du niveau d'enregistrement

Opéra-tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Obserrations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-10.3 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalonnage STD-630 (315 Hz).	Ensemble enr. (REC) VR1401 (can. G) VR1402 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter l'enregistrement et la correction de sorte que le niveau de lecture de 315 Hz soit de -10.3 dBV.	

5. Réglage de la réponsen fréquence d'enregistrement/lecture

- Cette opération réglant la polarisation d'enregistrement, faire attention de ne pas augmenter la distorsion par un réglage insuffisant de la polarisation.

Opéra-tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Obserrations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-30.3 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalonnage STD-630 (315 Hz et 10 kHz).	Ensemble enr. (REC) VR1403 (can. G) VR1404 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter la correction de sorte que le niveau de lecture de 10 kHz soit de 0 ± 0.5 dB en relation avec 315 Hz.	

• Réglage de la Platine II

- La Platine II est équipée d'un mécanisme de sélection automatique de bande.
- Remarque: Ne pas commuter entre le sens avant (FWD) et le sens arrière (REV) pendant que le tournevis est inséré.

1. Réglage d'azimut de la tête

Opéra-tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Obserrations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (10 kHz, -20 dB).	Vis de réglage d'ezimut de tête (Fig. 6-4)	TP-L (can. G) TP-R (can. D)	Niveau maximum du signal de lecture	Une fois le réglage terminé, bloquer la vis avec un frein de vis.

2. Réglage du niveau de lecture

- Toujours effectuer un réglage minutieux, car la valeur réglée sera le niveau Dolby pour la lecture.

Opéra-tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Obserrations
1	NORM	PLAY	Reproduire la bande d'ééalonage STD-331B (315 kHz, 0 dB)	VR451 (can. G) VR452 (can. D)	TP-L (can. G) TP-R (can. D)	-10.3 dBV	

3. Réglage de fréquence d'oscillation de polarisation

Opéra-tion	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Charger la bande d'étalement STD-630 et régler dans le mode d'enregistrement.	T581	Partie entre Ⓐ et Ⓛ (ensemble d'enregistrement (AF)) indiquée sur la Fig. 6-1.	La fréquence d'oscillation est de 105 kHz ± 1 kHz.	

4. Réglage du niveau d'enregistrement

Opéra-tion	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-10.3 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalement STD-630 (315 Hz).	VR521 (can. G) VR522 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter l'enregistrement et la correction de sorte que le niveau de lecture de 315 Hz soit de -10.3 dBV.	

5. Réglage de la réponse en fréquence d'enregistrement/lecture

- Cette opération réglant la polarisation d'enregistrement, faire attention de ne pas augmenter la distorsion par un réglage insuffisant de la polarisation.

Opéra-tion	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-30.3 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalement STD-630 (315 Hz et 10 kHz).	VR411 (can. G) VR412 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter la correction de sorte que le niveau de lecture de 10 kHz soit de 0 ± 0.5 dB en relation avec 315 Hz.	

• Vérification de la Platines I et II

1. Action du ALC

Opéra-tion	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-10.3 dBV	
2				+10 dB par rapport au niveau d'entrée de l'étape 1.		-5.5 dBV ± 2.5 dB	

6. AJUSTE

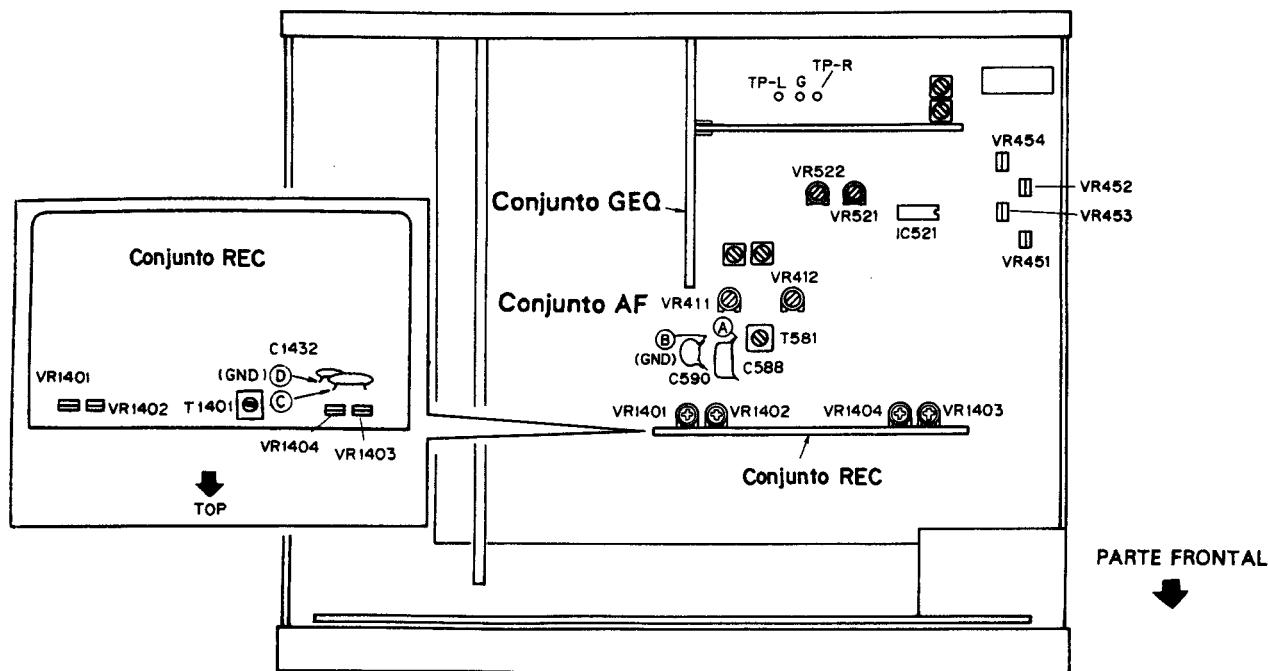


Fig 6.1 Punto de ajuste

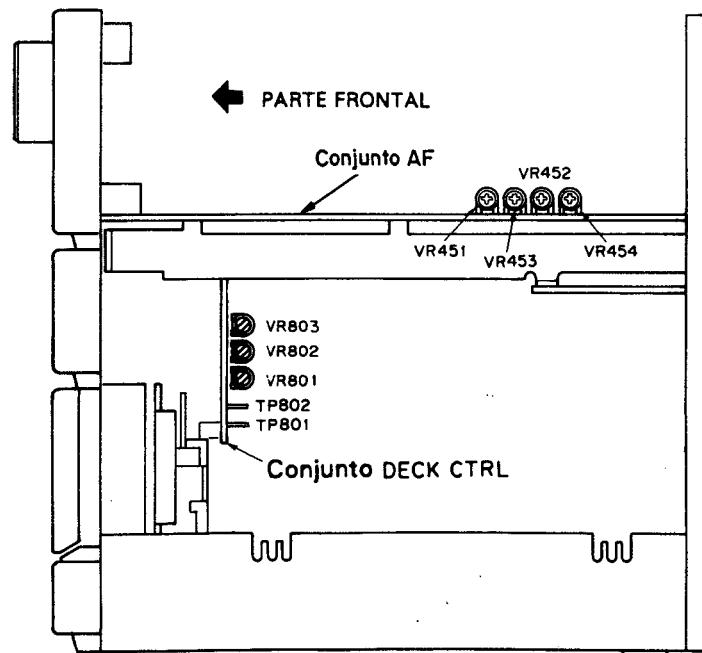


Fig 6.2 Punto de ajuste

- El ajuste y la medición se realizarán normalmente en el conjunto AF, a menos que se especifique otra cosa.
- Desactive (OFF) el ecualizador gráfico, ponga el control BALANCE en el centro, y ajuste el Control MIC LEVEL al mínimo (MIN).
- La función deberá estar ajustada siempre a "TAPE", a menos que se especifique otra cosa.

Ajuste del sistema mecánico

- Cinta de prueba: STD-301 (3 kHz, 30 min)
- Ajuste del modo de velocidad doble: Cortocircuite TP801 y TP802 del conjunto de DECK CTRL. Para desactivar el modo, abra el cortocircuito.

1. Ajuste de la velocidad de la cinta							
Nº	Modo	Señal de entrada/ cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	PLAY	Reproducción de la cinta STDy301 a 3 kHz	Sección I	VR801 del conjunto DECK CTRL	TP-L (canal izquierdo)	Presione PLAY SW y ajuste la frecuencia a 3010 Hz \pm 10 Hz. Cerciórese de que la fluctuación y el efecto de trémolo estén dentro de los límites del 0.2%.	
2	PLAY (Modo de velocidad doble)			—		Presione PLAY SW en el modo de velocidad doble y compruebe si la frecuencia es 6000 Hz \pm 1000 Hz. Anote el valor.	Después del ajuste, desactive el modo de velocidad doble.
3	PLAY (Modo de velocidad doble)	STDy301 a 3 kHz	Sección II	VR803 del conjunto DECK CTRL	TP-R (canal derecho)	Presione PLAY SW en el modo de velocidad doble y ajuste la frecuencia de forma que quede a \pm 30 Hz del valor anotado en el paso N°2.	Después del ajuste, desactive el modo de velocidad doble.
4	PLAY			VR802 del conjunto DECK CTRL		Presione PLAY SW y ajuste la frecuencia a 3010 Hz \pm 10 Hz. Cerciórese de que la fluctuación y el efecto de trémolo estén dentro de los límites del 0.2%.	

Ajuste del sistema eléctrico

■ Antes de ajustar el sistema eléctrico, compruebe y realice lo siguiente.

1. El ajuste de la velocidad de la cinta ha finalizado.
2. Limpie y desmagnetice la cabeza empleando un desmagnetizador de cabezas.
3. Cuando se mida, el nivel devel debe ser de 0 dBV = 1V rms.
4. Emplee el lado A de la cinta especificada para realizar el ajuste.
STD-331B: Para ajuste del sistema de reproducción.
STD-630: Cinta en blanco NORMAL
5. Prepare los dispositivos de medición siguientes: Milivoltímetro de CA, oscilador de baja frecuencia, atenuador, y osciloscopio
6. Ajuste ambos canales, izquierdo y derecho, a menos que se especifique otra cosa.
7. Ponga los interruptores DOLBY NR en OFF, a menos que se especifique otra cosa.
8. Antes del ajuste, deje que la unidad se caliente durante varios minutos.
Especialmente antes de ajustar las características de frecuencia de grabación y reproducción, deje que se caliente durante 3 a 5 minutos en el modo REC/PLAY.

9. Cerciórese de seguir el orden apropiado del procedimiento de ajuste. Cualquier cambio en el orden podría causar un resultado imperfecto.

Lista de ajuste

Sección I

1. Azimut de la cabeza
2. Nivel de reproducción
3. Ajuste de la frecuencia de oscilación de polarización
4. Nivel de grabación
5. Características de frecuencia de grabación/reproducción

Sección II

1. Azimut de la cabeza
2. Nivel de reproducción
3. Ajuste de la frecuencia de oscilación de polarización
4. Nivel de grabación
5. Características de frecuencia de grabación/reproducción

Comprobación de la secciones I y II

1. Cerciórese de que ALC esté funcionando adecuadamente.

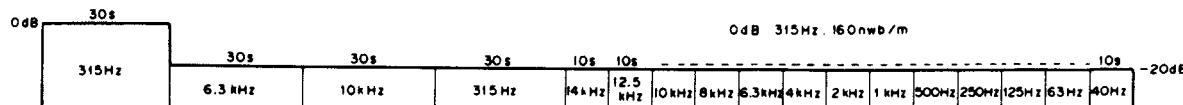
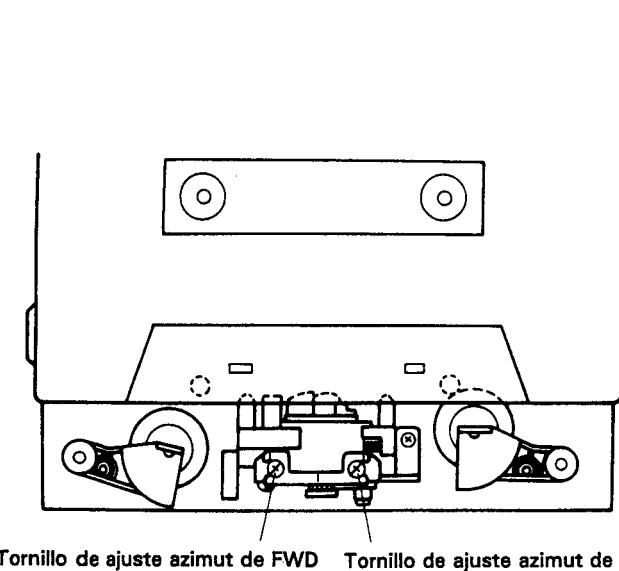


Fig. 6.3 Cinta de prueba STD-331B



Tornillo de ajuste azimut de FWD Tornillo de ajuste azimut de REV

Fig. 6.4 Ajuste del azimut de la cabeza

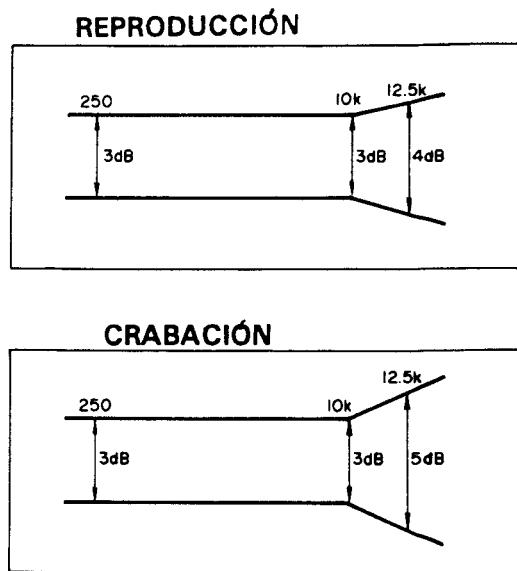


Fig. 6.5 Características de frecuencia

• Ajuste de la sección I

- La sección I dispone de un mecanismo selector automático de cinta.
- Nota: No cambie a FWD ni a REV mientras el destornillador esté insertado.

1. Ajuste azimutal de la cabeza

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (10 kHz, -20 dB).	Tornillo de ajuste azimutal de la cabeza (Fig. 6-4)	TP-L (canal izquierdo) TP-R (canal derecho)	Nivel máximo de la señal de reproducción	Blóquee el tornillo con bloqueador de tornillos después de haber terminado el ajuste.

2. Ajuste del nivel de reproducción

- Tenga mucho cuidado durante el ajuste, ya que el valor ajustado será el nivel Dolby fijado para reproducción.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (315 Hz, 0 dB).	VR453 (canal izquierdo) VR454 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	-10.3 dBV	

3. Ajuste de la frecuencia de oscilación de polarización

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Cargue la cinta de prueba STD-630 y establezca el modo de grabación.	T1401	Área entre ② y ① (conjunto de REC) mostrada en la Fig. 6-1.	La frecuencia de oscilación es de 105 kHz ±1 kHz.	

4. Ajuste del nivel de grabación

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-10.3 dBV	
2	NORM	REC / PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz).	Conjunto REC VR1401 (canal izquierdo) VR1402 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Grabe y reproduzca la cinta de prueba de forma que el nivel de reproducción de 315 Hz sea de -10.3 dBV.	

5. Ajuste de las características de frecuencia de grabación/reproducción

- Como este procedimiento es para el ajuste de la polarización de grabación, tenga cuidado de no aumentar el valor de distorsión mediante el subajuste de la polarización.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-30.3 dBV	
2	NORM	REC / PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz y 10 kHz).	Conjunto REC VR1403 (canal izquierdo) VR1404 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Repite la corrección de forma que el nivel de reproducción de 10 kHz sea de 0 ± 0.5 dB en relación con 315 Hz.	

• Ajuste de la sección II

- La sección II dispone de un mecanismo selector automático de cinta.
- Nota: No cambie a FWD ni a REV mientras el destornillador esté insertado.

1. Ajuste azimutal de la cabeza

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (10 kHz, -20 dB).	Tornillo de ajuste azimutal de la cabeza (Fig. 6-4)	TP-L (canal izquierdo) TP-R (canal derecho)	Nivel máximo de la señal de reproducción	Blóquee el tornillo con bloqueador de tornillos después de haber terminado el ajuste.

2. Ajuste del nivel de reproducción

- Tenga mucho cuidado durante el ajuste, ya que el valor ajustado será el nivel Dolby fijado para reproducción.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (315 Hz, 0 dB).	VR451 (canal izquierdo) VR452 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	-10.3 dBV	

3. Ajuste de la frecuencia de oscilación de polarización

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Cargue la cinta de prueba STD-630 y establezca el modo de grabación.	T581	Área entre ④ y ⑤ (conjunto de AF) mostrada en la Fig. 6-1.	La frecuencia de oscilación es de 105 kHz ±1 kHz.	

4. Ajuste del nivel de grabación

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-10.3 dBV	
2	NORM	REC / PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz).	VR521 (canal izquierdo) VR522 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Grabe y reproduzca la cinta de prueba de forma que el nivel de reproducción de 315 Hz sea de -10.3 dBV.	

5. Ajuste de las características de frecuencia de grabación/reproducción

- Como este procedimiento es para el ajuste de la polarización de grabación, tenga cuidado de no aumentar el valor de distorsión mediante el subajuste de la polarización.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-30.3 dBV	
2	NORM	REC / PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz y 10 kHz).	VR411 (canal izquierdo) VR412 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Repite la corrección de forma que el nivel de reproducción de 10 kHz sea de 0 ± 0.5 dB en relación con 315 Hz.	

• Procedimiento de comprobación para secciones I y II

1. Acción del ALC

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-10.3 dBV	
2				+10 dB contra el nivel de entrada del paso 1.		-5.5 dBV ±2.5 dB	